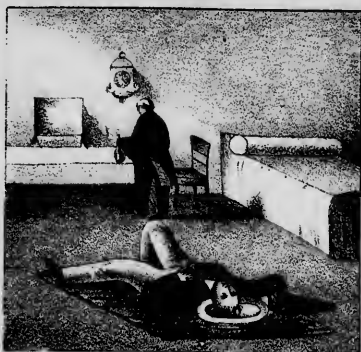




Half Bath.



Head Bath.



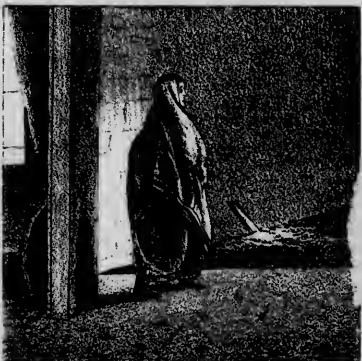
Sitting Bath.



Douche Bath.



Sweating.



Going to the Bath after Sweating

690

Dedicated to the Temperance Cause.

H A N D - B O O K

OF

H Y D R O P A T H Y :

OR,

A POPULAR ACCOUNT OF THE TREATMENT
AND PREVENTION OF DISEASES,

BY MEANS OF

W A T E R .

EDITED BY

JOEL SHEW, M.D.

Wash and be healed.

NEW-YORK:

WILEY & PUTNAM.

No. 161 BROADWAY.

1844.

W B F
S 554 ha
1844

File # 4053, no. 3

Entered according to an act of Congress, in the year 1844,
BY WILEY & PUTNAM,
in the Clerk's Office of the District Court for the Southern District of New-York.

WRIGHT'S Power-Press,
122 Fulton street, New-York.

PREFACE.

THAT a great improvement should at first be rejected is only in agreement with the past. The water-cure, wherever introduced, is set down as a delusion. This might at first appear strange and unaccountable, for, at the most, "a second sober thought" must enable every one to see that the remedy is one of *power*, and if used must produce effects of some kind. The idea of *water-cure*, is, in the common mind, a simple matter. The remedy is so abundant, so every where obtainable, that its importance is almost wholly overlooked. Mankind, too, are taught from childhood up, that to preserve health, and to enable the body to throw off its own diseases, medicine of numerous kinds and varieties *must be resorted to*. But a few years ago it was generally believed that alcohol was necessary to preserve health, to give vigor and tone to the body—healthfulness to the mind and all its faculties—buoyancy and blithesomeness to the spirits;—and in particular, that it was good to enable the body to resist the most serious diseases, as, for instance, the cholera. Such doctrines were strongly and even vehemently advocated; and by the very ones often, who, above all others, should have been free from such mischievous errors.

Whatever may be said of water-cure as a separate system, this much it is believed will not be denied,—*that the simple agent, pure water, is the best remedy in nature. Nor can any possible combination of substances, animal, vegetable, mineral, each or all, be made, which will at all compare with it.* But this important truth has not been realized; certainly not in modern times. True, all practitioners have used it to some extent. But, by far, it has

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been too much neglected. Even in cases where it will, with certainty, produce the most strikingly favorable results, it has been entirely neglected;—and more; it has often in such cases been deprecated.

Fortunately for the cause, and for society, we soon hear of the dangers of the water-cure.” This will lead to good results. It will thus be seen, that the remedy, being one of great power, may easily be made the means of great evil. And in this way, too, it will be better understood, than now, that there are dangers, other than in the water-cure—that in the use of the most deadly poisons, a thing of daily occurrence in medicine, there is always more or less of danger;—and this even when administered by the most skilful. Not so in hydropathy,—the remedy is always safe properly administered. This, then, constitutes a most important difference. Moreover, the treatment is also calculated to produce at least *some good* in all cases, which is not true of drug treatment.

It has often been asked, “why does quackery in medicine and such popular favor?—and why is it that one-fourth of the advertising portions of most papers of the day is filled with statements—such, that if there were truth in the tenth part of the wonderful things said and attested by the wise and the good, every disease nameable could be speedily eradicated?” The answer is easy. The general lack of knowledge respecting the laws of life, health, and disease, renders people capable of being made the easy prey of the villanous quack. A general spread of suitable knowledge upon these subjects is the only possible sure means of effectually removing out from society this interminate and wide-spread evil. And then again, taking the eminent surgeon, Sir Astley Cooper, as authority, (be it said not in censure, but in the spirit of truth,) there is too little difference between orthodox medicine and quackery. The praiseworthy profession has not yet done its best work. Quackery, multitudinous drugging, and increasing disease are abundant proof.

The honest fears of some, that quackery will have much to do with the water-cure, are not well founded. It is in its nature too simple. There is not in it that strangeness and marvellousness always so indispensable to the success of imposture. The practice too is one of labor and self-denial.

The alleged *oneness* of the treatment is altogether a fancy. By it, can easily be produced *directly opposite results*—and this to any required extent. Most profuse perspiration to lessen the fluids of the body ; or by cold, reducing the temperature, the quickness of the circulation and of the heart's action, even to the destroying of life. A treatment of such power can therefore be made to bear most efficiently upon diseases of every kind.

When the water-cure shall have found its way into general favor, which can take place only gradually, the great cause of temperance in its broadest sense will have a most powerful auxiliary. Temperance has already done much good. Its thorough and best work remains yet to be accomplished. Its true philosophy is not appreciated. The Washingtonian movement, the most efficient and best ever made, comes short of it. It is an ascertained statistical fact, that in New-England, since this movement commenced, in the short period of three years, the consumption of opium has increased four-fold, and that of tobacco ten-fold. In a place, where it is the pride of the people not to sell liquors, a hotel-keeper pays annually more for cigars than for bread stuffs. This unfortunate state of things is to be accounted for in the fact, that in the present state of physiological knowledge, mankind *will seek out stimulation somewhere*. The true idea is to reject all stimulants,—substances that stimulate merely without nourishing. And this is the doctrine of the water-cure. It is hoped that temperance men will look well to this important matter. Those deadly poisons are, in society, the cause of a vast amount of evil.

The water-cure system, more than any other, implies all due attention to the more important consideration, *the prevention of*

disease. A few simple rules being observed—judicious daily ablution—cold water the only drink—plain unstimulating food in proper quantity—the giving up of all stimulants—an avoidance of overheated and unventilated rooms—a suitable amount of daily appropriate open air exercise—regularity and moderation in all the habits of life,—the certain and natural consequence would speedily prove, throughout society, to be a comparative immunity from bodily suffering and disease.

In the belief that a small volume on this subject would in some degree aid in bringing about the great good which the water-cure system must sooner or later be a means of accomplishing on this side the Atlantic, the work before us has been prepared. It has been an object to give a concise general view of the treatment, in its present state of improvement. As will be easily seen, it does not possess originality. It has been gathered up from a variety of sources, and this without designing to be a voucher for the scientific accuracy of every thing contained. Without further comment or apology, the work, such as it is, is left to tell its own story.

J. S.

BROADWAY, NEW-YORK,
April, 1844.

[ADVERTISEMENT.]

Those who care to examine hydropathy more at large, and with reference to the opinions of various authors on the principles and philosophy involved in the treatment, are referred to a larger work, entitled "*Hydropathy, or the Water-Cure; its Principles, Modes of Treatment, &c., illustrated by Many Cases,*" compiled chiefly from the most eminent English authors on the subject, recently issued by the publishers of the present volume.

WATER-CURE SAYINGS.

"If there exists any thing in the world," said Hoffman, a celebrated German physician, "that can be called a panacea, (a universal remedy,) it is pure water; first, because it will disagree with nobody; secondly, because it is the best preservative against disease; thirdly, because it will cure agues and chronic complaints; fourthly, because it responds to all indications."

Water is one of the most valuable articles in the *materia medica*. Internally, it is diluent, sweating, cooling, and, if necessary, may be given warm to vomit. It keeps the blood and other fluids in a right state to circulate. Externally, it is very valuable to cool, or strengthen the system, in the form of bathing; and, given in the form of an injection, will purge. It has sometimes appeared to me that I could fulfil almost every indication by the use of water: vomit, purge, sweat, strengthen, and thus cure all fevers, &c. But we must not simplify too much, lest we destroy our own business *too soon*.—*Dr. Wooster Beach*.

When, by any means, a general fever is induced in the system, attended by great thirst, it is an instinctive demand of the vital economy for water, as a medicine, to reduce the temperature of the body, to subdue the excessive action, and, probably also, to flood away whatever morbid impurities may have found their way into the circulation. Cold water, taken freely into the stomach in such a state of the system, is absorbed with astonishing rapidity, and is very soon diffused over the whole organic domain, and is finally evacuated by the skin, lungs, &c., and thus greatly reduces the febrile temperature and action of the system: and if the water is perfectly pure, it has, in every respect, the most salutary effect. Indeed, if there be any one thing in nature of which it may more truly be said than of any other, that it is a universal

catholicon, it is pure cold water. In such cases, therefore, the instinctive demand of the vital economy should always and freely be gratified. Nay more,—pure cold water should not only be drunk as freely as the thirst requires it, but in most cases of high fever, the free application of water to the whole external surface, till the skin feels cool and moist as in health, is a natural and powerful and safe means of subduing the disease. I am entirely confident—and I speak from no ordinary experience in this matter—that the introduction of cold water into the stomach, and judicious application of it to the skin, will, in most cases, subdue a high fever, more rapidly, more safely, and more certainly, than any other means that can be employed. I have seen the most wonderful success from such treatment, and in the most extreme and desperate cases, when all other remedial means employed in regular practice had proved ineffectual. But even pure water can be made the instrument of empiricism, and, when injudiciously employed, may do far more harm than good. Wisdom and skill are always requisite in the use of even the simplest remedial means.—*Dr. S. Graham.*

Father Mathew, in speaking of a work on Hydropathy, says:—"I find it a most powerful auxiliary in persuading men to join our glorious society, and take the Total Abstinence Pledge."

Water cures diseases by *strengthening the general health and fortifying the system.* It brings "*bad stuff*" out of the system.—*Priessnitz.*

The abstraction of heat [easily accomplished by means of water] cures diseases by exalting and accelerating the transformation of tissues, [the normal and necessary change of matter in the system.]—*Liebig.*

Remedies are merely to be employed with a view of placing the body under the most favorable circumstances for resisting disease.—*Dr. Gregory.*

The science of medicine is almost the only one characterized by *uncertainty and chance.*—*Magendie.*

HAND-BOOK, &c.

CHAPTER I.

HYDROPATHY.

THE best term for the treatment by water, is the plain English one, *Water-Cure*. Somewhere it has taken the name of Hydropathy. This has been a cause of sneering on the part of objectors to the treatment, inasmuch as it means *water-disease*, instead of *water-cure*. The Germans call it *Wassercur*. *Hydrotherapeutics*, which means, *healing with water*, has been used by some. So, also, the word *Hydriatics*.

As a system of distinct treatment, the water-cure had its origin with Vincent Priessnitz, a peasant and native of the mountains of Austrian Silesia, in Germany. His discoveries were, at first, the result of accident. The following account has been quoted as given by himself:

"It was in the year 1816, when I crushed my finger, and, as it were by instinct, plunged this injured member into water till it ceased bleeding. I felt the coolness agreeable to my burning and benumbed finger, and found that by holding it repeatedly in water, the finger, without the least inflammation or suppuration, after secreting only a little white mucous matter, healed in a short time. I became convinced thereby of the healing power of cold spring-wa-

ter ; and when I mentioned this praisingly to others, I learned by some experienced old men that this was certainly the case ; and that they could relate to me a number of cases, in which cold water had proved salutary, above any other remedy. Soon I was to realize, in my own body, what a precious gift of the Creator for mankind lies hidden in cold water :

“In the year 1819 I met with the misfortune to break the ribs of my left side by a loaded wagon, and to have some teeth kicked out. The physician, called from the nearest town, declared the injury incurable thus far ; that in every fracture of the ribs, there would be formed lumps, which on the least exertion would cause me pain, and this for all my lifetime. He prescribed for me some herbs, a decoction of which in wine I was to lay upon the parts. These fomentations gave me the greatest pain, so that I could not endure it any longer, and tore off the warm fomentations. Recollecting my cured finger, I now used swathings of cold water, by which the raging pains were assuaged, and I fell into sleep, for the first time since the accident. I had ascertained that another man, who had fractured his ribs, pressed them out himself, and restored them to their former position, by laying himself with his belly upon the edge of a chair, so as to leave the upper part of the body free, and by the retention of his breath extending his ribs. Under the most violent pains I now tried this experiment myself repeatedly, and to my utmost joy felt my ribs stretching outwards. By repeated swathings with linen sheets dipped in cold water, in a few days, without having had any wound fever, I was restored so far that I could walk, and finally effected a total removal of the evil ; so that after

about a year I felt not any pain whatsoever ; could undertake any bodily exercise with facility, and no evil consequences remained. I found many later occasions for healing with cold water at home, among my own folks, such as crushings, dislocations, bruises, &c. Several of my neighbors having been informed of my cures, consulted me in similar cases successfully, and thus I acquired in the vicinity a kind of fame. The concourse of sick persons, and the happy cures which I effected in this simple way, determined me by degrees to try the treatment with cold water to an always greater extent. I thought it at first the best to bathe the suffering parts of the patients in cold water ; yet I frequently observed, that by means of inflammation arising, as well as by the various eruptions that threw themselves upon these parts, the patient suffered the greatest of pains, and I meditated upon means to lead off the inflammation. To this I was soon led, by the experiment of cold-bathing other parts of the body, and exempting from it the injured part, yet applying to this cold fomentations. In this way I found out the use of seat-baths, foot-baths, head and eye-baths.

“ I was frequently visited by sick people who had suffered for a long time from cold shivering, or a continual chill in the feet and hands. I knew of no better means to recommend to them than perspiration in bed. This they did, but asserted that they lost their chill only during the perspiration, and that afterwards they had had it stronger than before. I advised them, after sweating gently, to wash their whole body with a sponge, and saw the best effect coming from this expedient. The activity of the skin was increased by passing over it the wet sponge ; the patient felt

strengthened, and the warmth, restrained in the beginning by the succeeding healthy circulation, was spread over the whole body. This circumstance taught me that a real cold bath after perspiration could do no harm : and thus I introduced the beneficial sweating before the bath. The patients, however, grew often very weak during perspiration ; and as a relief I tried the opening of the windows, in order to strengthen the body by the inhalation of pure air ; and the salutary effect of this means was confirmed in all cases ; so that I never have seen yet, notwithstanding its frequent application, any bad accident arising from it. The burning heat and oppression of the patients induced me to let them drink some tumblers of cold water ; and I made the observation that drinking of water brought the patient only into a more copious sweat, and that, accordingly, it gives by no means a cold, but rather, by its quickening power, strengthens and beneficially warms the patient. Later observations, on occasion of washing and bathing the body, confirmed my supposition, as the evaporation was distinctly visible, and in mere washings a tangible burning of the skin could be perceived. The circulation of blood accordingly became much more animated, not merely heated for the moment, as by warm baths, producing subsequent obstructions, and when grown cold relaxing the nerves and leaving a torpidly circulating blood. The application of sweating in different cases appeared besides most salutary for those patients in whom I could suppose a corruption of the humors and concealed impurities. The desired eruption was thereby accelerated, and the tormenting pains of the patient were assuaged. Often, however, I met with persons whose cutaneous activity could be excited by no means whatsoever,

and in whom the physicians had for years been trying fruitlessly to produce it, and to bring the body into perspiration, whilst the whole disease was founded in the deficient functions of the skin. Here I made the above mentioned cold fomentations upon suffering parts my chief object of attention ; and the conviction was pressed upon me, that by them was effected a greater perspiration, than on the other parts of the body not acted upon by such fomentations. I therefore wrapped the patient closely in a linen sheet, dipped into water and well wrung out. How great was my astonishment and joy at the success ! For many years the patient had been deprived of a regular refreshing sleep, and now this came in a quarter of an hour, lasted exceedingly long, perspiration commenced, and at last the patient was bathed in sweat. From this time the patient always enjoyed good sleep, and the activity of his skin was developed without any forced means. I had thereby found a sure means for awakening the suppressed activity of the skin. By degrees, as stated above, I learned the different application of cold water upon the body, and soon found out the great difference between seat-baths, head-baths, foot-baths and eye-baths, of the douche, of rubbing the skin in the water and out of it, of entire baths, or mere washings, of cold baths of short continuance, and those of an hour's duration ; of injections, rinsing with cold water, &c. ; and of how great importance it is, whether the one or the other of these means be applied, as by their incorrect use the most contrary results have shown themselves."

Gaining thus at first a kind of celebrity among his immediate neighbors, it gradually spread until his house began to be frequented by considerable numbers of sick persons from

adjoining parts. And although his cures were often of the most astonishing kind, and generally performed gratuitously, there were not wanting those who were anxious to put an end to the "mischief," as it was called. The laws of the country are particularly severe upon quackery of every form ; and no one is allowed to sell medicines of any kind except those who are regularly certificated for that purpose.

One physician alleged that the sponges used by Priessnitz contained some remedial property, which, if true, would have placed him under the jurisdiction of the law. His sponges were accordingly dissected and examined, and of course nothing found.

Another prosecuted him for quackery, pretending that he, and not Priessnitz, had cured a certain miller of the gout. Accordingly both the physician and Priessnitz, together with the miller, were summoned before the court. The miller, in answer to the question, who had relieved him, answered, "both"—the doctor of my money and Priessnitz of my gout. And thus Priessnitz was acquitted from this charge. His government afterwards sent a commission of medical inquiry to Graefenberg, and finding that there was no quackery about the establishment, that the only agent used was pure water, with attention to air, exercise and diet, and that his practice was not only entirely safe, but highly beneficial, he was, on their favorable report, allowed to continue his operations.

He has thus continued to go on, using only the simple agent, pure water, for the treatment of all curable diseases, and the relief of those that are incurable. Persons of all ranks, grades, and professions, have placed themselves under his charge; a large proportion being such as had failed by

every attempt to get relief in any other way. At present, says Captain Claridge (1841), there are under his treatment an archduchess, ten princes and princesses, at least one hundred counts and barons, military men of all grades, several medical men, professors, advocates, &c.,—in all about five hundred.

So great has been the success of Priessnitz, as we are creditably informed, that out of nearly 3000 patients, in two of the latter years of his practice, he lost but two individuals.

CHAPTER II.

WATER, whether used as a remedy, a drink, or for any other dietetic purpose, should always be pure and soft. This is of the utmost importance where it is to be taken *into* the system. The water that falls unobstructed from the clouds may be taken as a standard of proper purity and softness. In many parts of our country the water of springs, streams, and wells, is wholly unfit for use, on account of its *hardness*. It is well known that animals will drink soft water, even when it is not pure, rather than the clearest water, if it be hard. The horse will leave the transparent water of the well, if hard, for the muddy stream or pool, if soft. All, therefore, who would enjoy good health or avail themselves of the best effects of water as a remedy, should by all means see to it, that it is of the right quality. When all other sources fail, at a comparatively

small expense, cisterns and filters can be so constructed as to afford a supply. A vast amount of disease and suffering is the result of using impure water. It has been estimated that the people in the city of Boston have drank *lime* enough, were it collected, to build the Bunker Hill Monument. To compute the amount of filth and oozings from drains, sinks, churchyards, stables, &c., would be no easy task. In city and town the world over, mankind are woefully blind to their best interests in this important matter. Even in this city (New York), where there is such an abundance of supply from the pure Croton, very many prefer to it, the filthy, and unhealthy water from the wells.

CHAPTER III.

PROCESSES.

Sweating.

This is brought about in the following manner:—The patient is undressed and laid upon a thick woollen coverlet blanket, extended on the bed. A servant wraps first the one side of the blanket round the body of the patient, drawing it close in all directions; grasping now firmly with the one hand the portion in which the patient is enveloped, he draws with the other hand the blanket round the body, and tucks this portion also closely under him. Care must be taken that the coverings be in close contact with the body,

especially at the neck, that the heat given off by the body may be so retained that it cannot escape. It is the excess of caloric thus confined which induces exhalation from the skin. The head must remain uncovered, if a disposition to congestion be observed. Slight excitement of the vessels before the outbreak of perspiration, generally passes off spontaneously; but where this does not ensue, a cooling bandage is to be laid on the head of the patient, who must, at the same time, drink a little cold water. Warming applications are to be wrapped round all parts affected with swellings, &c. before envelopement. Their use is to allay pain, which is generally more violent before the appearance of perspiration, and to excite a more copious exhalation from the parts to which they are applied.

Those who are restless in the blanket, and thus loosen it, should be confined more closely by additional cloths and girths, as they would otherwise have to remain wrapped up too long a time. Persons thus enveloped being helpless, an assistant should be always in attendance to open the windows, as soon as perspiration ensues, and to give, every ten or fifteen minutes, as much cold water as is necessary to promote perspiration.

The result of this mode of treatment is pretty certain.

The best time for sweating in chronic cases, is in the early hours of the morning, from four to five o'clock. A repetition of the process the same day, is only admissible as an exception. The ordinary duration in chronic cases is from half an hour to three hours daily; but moderate perspiration may be encouraged for a longer time in acute diseases.

When the patient has remained in a state of perspiration long enough, the woollen covering should be loosened about

his feet and legs, to enable him to walk. If not able, he is to be carried to the bath. No danger is to be dreaded from the transition from heat to cold, if every thing is properly done.

After the bath, patients who can should walk, or take other exercise, in fresh air. Those who cannot, must be rubbed after the bath for some time, first with wet cloths and then dry. Sweating is to be brought into use in all diseases where morbid matter is to be eliminated from the system, because the skin, as daily experience teaches, is the organ best adapted for this purpose.

This is a powerful part of the treatment, and must be resorted to with prudence and good judgment. Priessnitz does not now use it as often as formerly.

Wet Sheet, or Lein Tuch.

This is the great bug-bear of the treatment. The wet sheet is laid upon one or more blankets, the patient lays himself at full length upon the former, whereupon it is folded round him, so as to come in close contact with every portion of the body. He is then enveloped in the blanket and bed covering.

The wet sheets are of remarkable utility in all febrile diseases. In acute fevers they must be changed according to the degree of heat, every quarter or half hour, until the dry hot skin becomes softer, and more prone to sweating. When this symptom is observed the renewal of the wet cloths may be delayed for a longer period, until perspiration actually ensues. The patient must then remain for several hours in this state, until uneasy sensations render it necessary to extricate him; but it is more advisable to keep him in the

loosened envelopment until the sweating ceases spontaneously, when a tepid ablution, or half bath, should follow. In acute eruptions of the skin, measles, scarlatina, small-pox, &c. the wet sheets are not less serviceable, than when the eruption cannot make its way to the surface in consequence of the dry state and heat of the skin, and of the violence of the fever; or where the rash has receded suddenly, owing to other disturbances. In both cases the wet sheets are of essential service; one application of them suffices sometimes to re-establish the eruption. If the rash fail to make its appearance after the first or second envelopment, cold affusion may be used. There are cases in which the use of this remedy may be deemed objectionable, and a continuance of the wet sheets may appear more proper; we must then examine the skin carefully before every change, to see whether the eruption be nearer the surface, the skin softer, and the heat abated. In the latter case the application is to be discontinued, that the reaction of the skin may not be disturbed. The wet sheets followed by tepid ablutions cannot be sufficiently recommended in many diseases of children. Many severe complications are averted or relieved, at least by them; or, where this is not the case, the disease itself is brought more speedily to a favorable termination.

The envelopment in wet sheets is not only of great advantage in acute diseases, but is also an admirable remedy in a variety of chronic cases, attended with an irritable, rough, and inactive skin, and in a multitude of skin-diseases; but in all these cases a frequent change of the sheets is seldom necessary. In using the envelopment, we generally raise the temperature of the patient, and occasionally allow him to perspire, according to the circumstances of the case.

Determination to the head during the process must be removed by cold applications to that part. If the feet remain cold for a long time in the wet cloths, and show no disposition to become warm, they are to be extricated and wrapped in the dry blanket only.

The wet sheet produces two *diametrically opposite effects*, accordingly as it is used. If it be changed frequently, as fast as the patient becomes warm, as, for instance, in cases of fever, almost any amount of heat may be *abstracted* slowly and gradually from the body. But if the patient remain half an hour, the most delicious sensation of warmth and a gentle perspiration are produced; while pains and uneasiness are removed.

Cooling Bandages.

Bandages are made to produce the same effect upon any *part* of the body, as the lein-tuck upon the whole body. As cooling or refrigerant applications, they should be applied of a size suited to the part inflamed, folded from three or four to eight times, dipped in very cold water, and are to be renewed from every three or four to ten minutes, according to the necessities of the case.

Warming, or Stimulating Bandages.

These are applied by folding linen two or three times, and dipping them in cold water, or they may be made slightly tepid; they should be well pressed or wrung out, and are not to be changed until they begin to dry. They must be well adapted to the part, and also well secured from the action of the air by a dry bandage, which is better to be a non-conductor of heat, so that the part may be raised in

temperature. The combined action of heat and moisture thus produced is highly beneficial in a great variety of indurations, swellings, tumors, &c. In the water-cure, they are also much used in derangements of the digestive organs, affections of the abdomen, diseases of the liver, &c.

For the abdomen, a convenient form is made by folding and sewing together two or three thicknesses of linen, of sufficient length to pass round the body two or more times, the width varying according to the size of the person ; one end is wet and wrung out, enough in length to cover the abdomen, or to pass round the body if desirable, and then applied as tightly as comfortable—and the dry folds over in the same manner ; the whole secured by pins, or better by tapes attached for the purpose. There should always be enough of dry cloths of some kind to prevent a permanent chill.

Abreibung, or Rubbing Wet Sheet.

A linen sheet of coarse quality, suitable for holding considerable water, and at the same time serving well for friction, is here used. It is better to press and not wring it out of the water, and may be allowed even dripping. The patient standing ready, it is to be thrown over the head or closely about the neck, so as to create a slight shock, and immediately very active friction is to be used by the assistant behind, and the patient, if able, or another assistant, before. This should be continued from one to five minutes, when the skin will have become reddened and warm. This must be immediately followed briskly by a coarse dry sheet or dry cloths, until the surface is perfectly dry and in a complete glow. The patient is then immediately dressed

for exercise, or for bed, as the case may be. The temperature of the water used should correspond with the strength of the patient. Those who are so feeble as to render it necessary for them to remain in bed, can be often much benefitted by a judicious rubbing while in bed. This is a highly useful and convenient application, and, if judiciously made, will produce nearly, if not quite, all the good effects of a bath, and will often be found much more convenient of application.

Ablutions.

These may be performed in the following manner :—The hands, or a sponge or cloth, is dipped into a vessel containing cold water, placed upon a chair. The sponge or cloth is to be gently expressed, and then conveyed for some few minutes rapidly over the whole surface of the body ; then the same operation is to be performed with dry cloths, brushes, &c. until the surface is entirely dry. Every one, old and young, should practice daily ablutions. They should however be commenced with caution.

The best time for these ablutions is the morning. They are to be performed immediately after rising from bed, when the temperature of the body is raised by the heat of the bed. The sudden change favors the reaction which ensues, and excites the skin, rendered more sensitive by the perspiration during the night, to renewed activity. In some cases, more than one of these ablutions becomes necessary ; the same operation may then be repeated at different intervals. In many cases a second ablution before going to bed will suffice. Local ablution will have to be repeated most frequently, where we wish to produce increased reaction ; even

in these cases the temperature of the body, or its natural warmth, should be restored before proceeding to a second ablution ; to increase the beneficial effects of this washing, it should be accompanied by friction during the process ; this is also essential immediately after it. Quite as necessary is exercise in the open air, if circumstances will in any way permit it. Very great invalids only may be allowed after washing to retire to bed.

Plunging Baths.

The immersion of the body covered with sweat, into cold water, is exempt from danger, provided the organs of perspiration are in a state of repose. The risk which is incurred of catching cold, if, on arriving at a river to bathe, we remain until the body is cold, cannot possibly exist in this case ; as we thereby abstract from the body the heat which it requires to produce reaction, and thus lose the good effect of bathing. Then if we walk fast, or a long distance to the bath, it is requisite to repose a little in order to tranquilize the lungs, after which we must undress quickly and plunge head-foremost into the water, having first wetted the head and chest, to prevent the blood mounting to those regions. This precaution is strongly enforced at Graefenberg. During the bath the head ought to be immersed several times into the water. Great care is requisite in not exposing the body, between throwing aside the blanket after sweating and entering into the bath.

It is highly advantageous to keep in movement in the bath, and to rub with the hands any parts afflicted. The skin is thus stimulated, and the sensation of cold abated. Those whose chests are affected must exercise moderation

in the use of the bath, entering it only by degrees, and not staying in it too long. In general, the time for remaining in the bath is governed by the coldness of the water, and the vital heat. At Graefenberg, where the temperature of the water is from 43 to 50 degrees, no one stays longer in the bath than from six to eight minutes; many only two or three. Priessnitz advises his patients to avoid the second sensation of cold, which is a sort of fever, by leaving the bath before it is felt: by this means the patient will avoid a too powerful reaction, provoked by a great subtraction of heat. This precaution is indispensable at the epoch of the treatment, marked by fevers and eruptions. Then a reaction, produced by an immoderate use of the bath or douche, would compel the invalid to keep his bed for some days, without at all accelerating the cure.

On leaving the bath, which is found more refreshing than any one can imagine who has not experienced its effects, you are covered with a sheet, over that a cloak is thrown, and thus you go to your room, where the whole body is dried and rubbed; then you must dress quickly, and walk to keep up the warmth. To effect this by the heat of stoves or beds, would be acting in direct opposition to the treatment. A glass or two of water immediately after the bath, is agreeable, and should not be omitted whilst walking.

The Half-Bath.

This is employed in cases in which the whole bath would be too much for the strength of the invalid, who may require to be bathed for a longer time, in order to excite the morbid humors. It is, in effect, less active than the entire bath, and is attended with less danger. The temperature of

the small or half-bath is never lower than about sixty degrees.

The water in these half-baths is only about three to six inches deep. When it is necessary that the invalid should have the advantage of an entire bath, water is poured upon him, or the attendant constantly wets the body and head with the water of the bath.

The half-bath is frequently taken by the patient immediately after he has been confined in the wet sheet. It may be accompanied by a general sprinkling of the body with cold water and rubbing. Whilst still sweating, the patient should hasten to the bath, throw off the covering, previously wetting the head and chest, and the attendant should pour a pailful of water upon the head, when the face and the body must be well rubbed. This last part of the process is often continued for ten or fifteen minutes together, sometimes much longer. When the patient quits the bath he dries himself, dresses, and proceeds to take exercise in the open air.

Sitting-baths.

The dimensions of the vessel should be about the following: height of the pedestal, four to six inches; the inner depth of the vessel nine to ten inches; height of the back, six to eight inches; whole breadth of the vessel, twenty-two to twenty-four inches. These baths are made of wood or tin. The vessel in which the bath is taken should be filled with water, until it reaches the navel of the patient, when in the sitting posture. In especial cases, a greater or less height of water may be requisite. During the bath, the upper part of the body is to remain covered, the shirt

should be turned up, and the legs and feet are to be enveloped in a woollen coverlet. Whilst the person is in the bath, he may rub the abdomen with a woollen cloth, to increase the action of the skin, and to facilitate the passage of flatulent collections. The action of sitting-baths varies partly according to the length of their duration; partly according to the temperature of the water. Where they are desired to have a tonic action, the temperature should be from 50° to 60° of Fah., and they should be continued from ten to fifteen minutes. Of course they are to be repeated frequently during the day. To act as a stimulant, and to produce more powerful reaction, they must be continued for the same length of time; but their temperature must not exceed 40° to 45° of Fah.

Where the sitting-baths are to act as derivatives, determining the blood from parts which suffer from congestion, the patient must remain twenty minutes to half an hour in the bath. It is sometimes necessary during the bath to adapt cold applications to the parts affected; this is the more necessary, if the congestions increase during the bath.

If the sitting-baths be intended to produce a solvent effect, a moderate temperature of 60° to 70° of Fah., and rather a lengthened continuation of them, say from half an hour to an hour or more, will be required. It is advisable, that patients suffering from obstructions or hæmorrhoids should sit in deeper water; it may in this case extend beyond the umbilicus.

These baths should not, as a rule, be taken immediately after eating, as they will be liable to derange the digestion and produce irregularities in the evacuations. The best time is an hour before dinner, or before going to bed. In

the latter case they offer the advantage of securing a night's rest to the patient. Generally speaking, two sitting-baths a day will suffice; in particular cases, especially if not persevered in for a long time, five to six may be taken during the day. Exercise in the open air is to be strictly recommended both before and after these baths.

Head-Bath.

A wooden dish or basin of proper size is to be filled with water, and placed on the floor at the upper end of a rug or mattress. The patient lays himself at full length upon the mattress, and immerses the part of the head to be bathed in the water. This and all other varieties of topical baths to be repeated, according to circumstances, three to five times a day.

Where head-baths are used as derivatives for violent and local pains of the head, the side of the head opposite to that affected is immersed in the water for three or four minutes. This may be repeated several times during the day, if necessary.

If the head-baths are to have an anodyne or soothing effect in gouty or rheumatic affections, they should be used at a temperature of 60° to 70° Fah. One side of the head, and then the back, afterwards the other side, is to be plunged into the water, and this is to be repeated several times, until the desired alleviation ensues. In cases of necessity, this process may be repeated several times in the course of the day.

Eye-Bath.

Water is held to the eye, which for a minute is kept closed,

and then opened for five minutes in a small glass, made for the purpose, in circumference about the size of the eye. The head-bath is generally used with this bath, but the latter is repeated oftener, and in most cases where there is inflammation, a fomentation is applied to the back of the head on going to bed, and another at the back during the day. For weak eyes the forehead is bandaged on going to bed. Sitz and foot-baths form part of this treatment.

Finger-Bath.

For whitlows, the finger is placed in a glass of water, three times a day, fifteen minutes each time, the finger and hand bandaged; then the elbow must be placed in water twice a day, and a heating bandage placed on the arm above it. This will have the effect of drawing the inflammation from the hand.

Leg-Bath.

The thighs and legs, when afflicted with ulcers, ring-worms, wounds, or fixed rheumatic pains, ought to be put into a bath so as to cover the parts afflicted. The object of these baths is for them to act as stimulants. They may be taken for an hour, and sometimes longer: they always determine abscesses, and where they already exist, they cause an abundant suppuration. They are also applicable to any other members afflicted in a like manner.

Foot-Bath.

These are taken in a small tub, or in the same vessel as the sitting-baths. The temperature and volume of water must depend on the action we wish to produce. If

to act as stimulants, they must be very cold. The feet should be warm before commencing. The water should have a depth of one, at the most of two inches, and the bath must not be continued longer than five minutes. They may be repeated several times during the day, according to circumstances. Rubbing immediately after the baths to promote speedy reaction, and also exercise after them, are indispensable. If the object of the foot-bath be to determine from the head or chest, the vessel must not be too large, in order that the water may become warm during the bath, which may be continued in that case from twenty minutes to one hour. In this case the water must not be as cold as for the former purpose, and should cover the ankles. If congestion increase during the bath, cold applications should be at the same time applied to the parts affected. Friction and motion of the feet are absolutely necessary during and after the bath.

If the intention of these baths be to produce a soothing effect, their temperament should not be below 60° of Fah. ; they may however be continued for a longer period of time; fifteen to thirty minutes will in most cases suffice. They may be repeated on the return of the attacks of pain. Where their action is to be derivative, the temperature should be from 45° to 60° of Fah., and they should be continued for half an hour to one hour or longer. If they are to produce this effect gradually and not rapidly, we frequently resort at the same time to applications to the part affected. Cooling applications frequently repeated will often lead to the desired result, and at other times applications producing warmth will be most serviceable; we should therefore consider whether the object be to produce cold or heat.

Shower-Bath.

In this kind of bath very weakly or irritable people may begin with tepid water, and they will soon accustom themselves to cold, as these baths produce a very grateful impression. Those who cannot obtain a proper machine may stand in an empty bathing vat, or other vessel, sufficiently large, whilst an assistant standing on a chair pours water over them from a common watering-pot, which answers the purpose perfectly.

The action of these baths consists in a general shock to the nervous system, and to the skin; in consequence of which, the secretion and excretion is promoted, and the whole economy benefitted. As the action of shower-baths is closely allied to that of ablutions, they are justly preferred to these by many people, because their effect is milder, and more grateful, and the water, in the form of rain, is brought in contact with all parts of the body at the same time. They are to be recommended in diseases requiring repeated sweatings for their cure; for patients who, in consequence of congestions, and diseases of the chest, cannot bear the full baths after the process of sweating. These baths deserve recommendation to families. Children may be best accustomed to cold water in these baths where the temperature can at first be raised, and then gradually decreased.

The Drop-Bath.

This term is applied to single drops of water falling from a height of several fathoms. For this form of bath a vessel is used filled with very cold water, and furnished with a very small aperture, through which the water passes in the form of drops. The small aperture should be partially

closed by a plug, to prevent the drops from following each other in rapid succession. By these means their operation is considerably increased, and it becomes yet more potent if we allow the drops to fall upon a particular part at certain periods, and rub the part during the intervals. The reaction about to commence will indeed be thus interrupted, but will afterwards make its appearance in a more powerful and energetic form.

The violent excitement and irritation of the nervous system produced by these baths, render it necessary to restrict the use of them to half an hour; nor are they adapted for such parts as are abundantly supplied with nerves.

They are often used with more effect in obstinate and chronic cases of paralysis, than the douche or affusion, with which they may alternate. Powerful and continued friction with a horse-hair glove is never in this case to be neglected after the baths.

The Douche.

This description of bath is prepared with the aid of mechanical contrivances, by means of which a stream of water is made to fall upon the body with more or less force. In some respects it is most advantageous to make use of a natural fall of water for this purpose; we can then conduct the water simply into a channel, giving it a fall of twelve to twenty feet, and to the stream a calibre of half an inch to five inches. Douche rooms, admitting by their construction of the access of air from above, produce an agreeable sensation, especially in summer, and are very beneficial in their action. After the first time of using these baths, the

dreadful ideas which many patients preconceive of them quickly disappear.

The chief consideration in the use of the douche should be to guard against applying it to the body when quite cold, or when in a state of perspiration after active exercise. The patient after undressing in a moderate temperature, steps below the falling stream, attempting to receive it in the palms of his hands, that the whole force and volume of the water may not fall upon his body immediately, which is not, to say the least, at all times agreeable. After having thus prepared himself for the more potent shock, he must expose himself to the full stream, and, in such a manner, that the whole column of water fall chiefly on the neck and spine. From time to time he must equably expose the other members of the body to the stream ; but the affected parts chiefly, and for a greater length of time. He should be careful not to allow the stream to fall perpendicularly on the head, chest, or the region of the liver, especially if these parts be weak or affected with disease.

The duration of the douche must be regulated by the constitution of the patient, and the effect we wish to produce ; it should never be continued for less than one, nor more than twelve minutes.

Where a natural douche is not to be obtained, we make use of a machine resembling a fire engine in construction. By means of these contrivances we may bring one or more streams of any given force into operation. Care must be directed to the selection of cold and fresh water for this purpose. The same rules are to be observed as in the use of the former douche.

Artificial douches may be made to answer the purpose of

sitting-baths in rivers, where the latter are not to be obtained. For this purpose the stream must be continued and of considerable calibre, but not of too great force.

There are beside the douches mentioned, peculiar apparatus for the application of douches to the eyes and ears. The stream should in these cases be very fine, about the size of an ordinary knitting-needle, and should be directed uninterruptedly to the part, but not with too much force.

The period of the day at which these different douches (excepting those for the eye and ear) are used, varies. They are only to be taken, as an exception, fasting, or immediately after sweating, and never on a full stomach, nor oftener than once or twice daily.

Rather active exercise should be taken after the douche, until the peculiar sensation of reaction has totally disappeared, or an uncomfortable sensation of cold accompanied by head-aches, fainting, &c., will be experienced, instead of an agreeable and beneficial glow. It is, moreover, not advisable to drink cold water immediately after the douche, because a rapid generation of heat is thus impeded, and inflammations of the stomach and bowels might be caused.

"A captain on half-pay," says Weiss, "from Vienna, aged 64, took the douche rather late in the day, and retired to his room to rest. I found him, after missing him at the supper table, sitting on a chair in a perfect state of insensibility, and supported from falling by two chests of drawers. Involuntary evacuation of the fæces and urine had taken place during a convulsion. Affusion with cold water, alternating with friction, produced vomiting in about eight minutes, as a consequence of the shock to the stomach. The pulse, which had totally disappeared, and respiration also,

were restored, and the patient was, thus in reality saved. In all probability he would have remained in this state of insensibility, and have died, if assistance had been afforded him but a few minutes later. The douche, in addition to the powerful symptoms of reaction it produces, such as reddening and swelling of the skin, &c., has an exceedingly stimulating action on the vascular and nervous systems, and is, therefore, the best means of putting morbid elements into commotion, exciting all the functions of the organism to increased activity, and determining the morbid elements of the skin and secerning vessels, where they are eliminated."

The douche, the most powerful stimulant known in hydropathy, is always applicable where excitement is necessary, but attention must be paid in every case to age, constitution, and to the vital powers.

Oral Bath.

The oral bath consists in repeatedly rinsing the mouth with cold water, which is retained for several seconds, and by bending the head backwards, brought in contact with the posterior fauces, which also require cleansing. This bath deserves especial recommendation, as an excellent tonic and purifier of the mucous membrane and salivary glands; its salutary effects extend also to remote organs, which are not brought in contact with the water.

Nasal Bath.

The nasal bath (rinsing of the nose) consists in repeatedly drawing cold water up the nose, and again expelling it. This application has also a purifying effect, as a solvent of

obstructions and depositions, invigorating and strengthening the structures.

Drinking.

Drinking is an important part of the Water Cure. The quantity usually directed by Priessnitz is from eight to twelve tumblers daily. His general advice is, "do not oppress your stomach, although I wish you to drink as much as you can conveniently." As to the time of drinking, as a general rule, most should be taken before breakfast, rather less before dinner, and least before supper. Much drinking late in the day would be liable to disturb the rest at night. It should be taken, as a general thing, only after digestion. Some, we are told, at Graefenberg, drink enormous quantities, without any apparent inconvenience, always taking active exercise at the same time; yet, it should be remembered, that serious consequences may result from the over-distension of the stomach. None should be drank while the body is very cold. It, in connexion with exercise, healthfully promotes perspiration, and acts also in a highly beneficial manner upon the renal secretions and organs, especially if they are in any way affected with chronic disease. The less the quantity taken at meals the better will be the digestion as a rule. The aqueous portions of proper food furnish a sufficiency of fluid, and in those cases when it has been deemed necessary to drink much at the meal time, the system would be much better with the water only, and then the following meal, temperate in quantity, without the drink. Liebig, we are told, considers the purity of the water of the utmost consequence; that if it have not more than two per cent. of saline matter, it would principally

pass to the bowels; but if of proper purity, eight-tenths would in the shortest time pass off by the kidneys. Water, when of proper purity, and taken at proper times, with appropriate exercise, will be found to produce a healthfully tonic effect upon the stomach and bowels, and must also exert often an important influence upon the blood in freeing it from various irritating substances which it may contain.

In fevers, where there is intense thirst, the copious drinking of pure cold water, at proper intervals and in proper quantity, is highly grateful and salutary. It is astonishing that there should have been so much error on this subject, when Nature so distinctly points out the true remedy and the best. In all cases of thirst, the voice of Nature should be heeded in this respect, and her demand should be freely gratified. But the *physiologist* will appreciate the fact, that the appropriate remedy may be made to produce great mischief, and will act accordingly.

Injections.

Internally, in the form of injections, water is often advantageously used for a variety of purposes. In congestions and inflammations of different kinds in the abdomen, it is a most powerful agent. And whenever the evacuation of the bowels is needed, it, in this form, and in connexion with drinking in suitable quantities, cannot be too highly recommended. In cases of very weak persons, it will be best to employ the tepid form. It should always be slowly introduced, and care be taken that air be excluded from the instrument, by having it entirely filled with the water. When the first is rejected, a second or third, and so on,

should be repeated until the desired object is attained. Persons in health should in no way allow themselves to continue in practices which are sure to bring about a necessity for this valuable remedy. It, like all others, may be misused. When *used*, it is useful—but when *abused*, it is hurtful. Injections are also profitably used in diseases of the eye, ear, nose, &c. These will need instruments appropriate for the part into which they are to be introduced.

Cautions in the use of Water.

As a rule, *no strong impression should be made upon the system, either internally or externally, within about three hours after a meal.*

Under this rule, water may be safely used to produce a strong impression, either internally or externally, or both, *when there is no sensation of chilliness, when the temperature of the body is raised, as in high fever, when there is no general or profuse perspiration brought on by exercise, or when the body is not fatigued.*

The following is quoted from the celebrated Dr. Franklin, “On Swimming” :

“During the great heats of summer, there is no danger in bathing, however warm we may be, in rivers which have been thoroughly warmed by the sun. But to throw ourselves into cold spring water, when the body has been heated by exercise in the sun, is an imprudence which may prove fatal. I once knew an instance of four young men, who having worked in harvest in the heat of the day, with a view of refreshing themselves, plunged into a spring of cold water; two died on the spot, a third the next morning,

and the fourth recovered with great difficulty. A copious draught of cold water in the same circumstances is often attended with the same effect in North America."

It is said that at Graefenberg a gentleman declared that the cold bath might be taken after sweating produced by exercise, with quite as much safety as from the blanket, and that himself had made the experiment. On Priessnitz's opinion being asked, he exclaimed, "Very bad—very bad. It may be done once, but not the third time."

CHAPTER IV.

Diet.

Some who advocate the water-cure, as practised by Priessnitz, have made objections to the diet. It is not pretended but that it is improveable. When it is said of his patients that "they eat too much," it is only saying what is true of civilized man the world over. When Professor Mott, of this city, (New York,) in one of his lectures, said there was as much need of temperate eating societies, as there was of temperate drinking societies, he by no means meant to be understood as placing a low estimate upon popular temperance societies; he was fully aware of the undeniable fact, that excessive alimentation is in civilized man a most fruitful source of disease. Admitting that the diet in Graefenberg is not in all respects what it should be, to obtain the best results in treating disease, it only goes the more strong-

ly to prove the power and value of the water-cure. In some very important particulars, Priessnitz has shown his good sense and judgment, all must admit, who are well informed on the subject of diet. "He deprecates," says Claridge, "all exciting things, such as tea, coffee, wines and spirits, and recommends cold aliments rather than hot. A rule for dieting, in diseases, second in importance to no other, is that which relates to *quantity*. In the process of starvation, it is a well-known principle that the substances or parts of the body least essential to life are the first to be wasted, and on this same principle, in case of shipwreck and other accidents, tumors have been known to disappear rapidly, and old ulcers to heal in a very short time, with those who have been thus subjected. This rule, of course, will not apply in *all* cases of disease.

"I know a gentleman," says Dr. Johnson, "who was entirely cured of an obstinate permanent stricture by adopting a very severe course of abstinence, as it regards both food and drink, for two or three weeks. I am also acquainted with several other very severe cases of disease, entirely cured by the rigorous adoption of a severe diet—but *always in connexion with a very mild course of the water-treatment.*"

Clothing.

Priessnitz requires of his patients that they lay aside their flannel and cotton. He holds "that they weaken the skin, render people delicate, and less able to contend against atmospheric changes." When objections are made, he says, "Wear it, then, over your shirt; but when you are accustomed to cold water, you will not miss it. After the bath

which you have now taken, run or walk until you provoke perspiration. You need then have no fear of catching cold."

Air and Exercise.

It will be observed that these important adjuncts to any kind of treatment, share largely in the water-cure. Priessnitz insists that all who are able shall take an abundance of out-door exercise regularly. The value of such exercise is inestimable. Every one who observes at all respecting it, knows the invigorating effect it has upon the system. The cases given by different authors in this work will furnish sufficient directions in reference to these adjuncts ;

"Priessnitz's first endeavor is to alleviate pain, so that the patients may avail themselves of air and exercise. How far this object is attained may be judged of, from the circumstance that out of 500 or 600, the usual average number of patients under his charge, there are seldom a dozen of persons in bed at one time. If their complaint be fever, he is so completely master of the case, that no one ever keeps his bed, and seldom his room, for more than two or three days, excepting in cases of typhus, a malady which generally takes twelve or fourteen days to eradicate, but hardly ever longer. The same remark will apply to rheumatism. If the sufferer can only reach Graefenberg, he may be sure of relief, such as elsewhere would be called a cure, and which is repeated many times a year ; but the cure can only be regarded then as just commenced, it being Priessnitz's object to eradicate the cause of malady from the system. What is understood by a cure at Graefenberg, is a perfect cleansing of the body of all impurities, a radical cure

of that which has been the source of disease. Cases of no very long standing succumb to the treatment, sometimes in two or three months; others resist for one or two years. Supposing, for an example, a young man to be attacked by gout, let him apply to Priessnitz, and he will be cured immediately; but another who has inherited it from his family, and who has been a bon vivant himself for a number of years, cannot expect to be made a new man, but with the exercise of patience; yet he will have this satisfaction, that during the cure he will find himself, in other respects, in perfect health, never be confined to his room, and be able to take plenty of exercise. ”—CLARIDGE.

The Crisis.

One most remarkable feature in the water-cure, is the crisis, as it is termed. It is said that at Graefenberg it is really amusing to observe with what anxiety it is looked for by the patients. In most cases it proves the certain harbinger of a good cure. “The patients themselves are constant witnesses of this fact, and it is no wonder, therefore, that they should look forward with pleasure and hope to its advent in their own persons. A patient is no sooner missed from the table than the question goes round, ‘Has so-and so got a crisis?’ And if the reply be in the affirmative, the report spreads like the news of a fresh victory, and his friends assemble around him—not with long faces to condole him—but with merry smiles, and laughing jests, to congratulate him on his happy fortune.” “The following allegorical lines from Southey,” says Capt. Claridge, “might with great justice be literally applied, by the individual who has passed through the crisis, and been restored to health”:

"Most blessed water! Neither tongue can tell
The blessedness thereof, nor heart can think,
Save only those to whom it hath been given
To taste of that divinest gift of heaven.
I stopped and drank of that divinest well,
Fresh from the rock of ages where it ran;
It had a heavenly quality to quell
All pain. I rose a renovated man;
And would not now, when that relief was known,
For worlds the needful suffering have foregone."

The crisis is generally ushered in by a sense of uneasiness, a loss of sleep and appetite, an alternate change from heat and cold, and lastly by all the symptoms of fever, which are sometimes violent, but always of short duration, if properly attended to. At its termination, the alvine and other evacuations are more plentiful, and accompanied by a more copious separation of extraneous matter than ordinarily; sometimes by several of the excretory passages at the same time. This increased secretion is generally accompanied by a variety of eruptions of the skin, by boils, abscesses, ulcers, &c.

The term crisis applies to any very marked disturbance of the system, or cutaneous change; as the crisis fever, odorous perspiration, odorous urine, vomitings, diarrhœa, hæmorrhoidal discharge of blood, and various kinds of eruption on the skin.

In very many cases of cure, there is said to be no perceptible crisis of any kind. There appears to be no very general rule respecting it. In some old and obstinate cases of gout, mercurialism, &c., it is said to take place as many as from three to five times before the cessation of the disease, and the re-establishment of perfect health.

CHAPTER V.

TREATMENT OF DISEASES.

Inflammation of the Stomach.

This is one of the most dangerous forms of inflammatory disease. Violent pain, heat, and swelling in the region of the stomach, are first experienced: to these symptoms are added, spasmodic contraction of the pharynx and stomach, hiccough, nausea, even vomiting, great sensibility in the region of the stomach, affections of the head, giddiness, fainting, delirium, great debility, and sensation of weight in all the limbs. If fever be not present at the commencement of the attack, it very soon appears and becomes very violent.

The causes are various: it may arise from pressure, a blow, injuries to the stomach in general. Indigestible stimulating food or fluids suffice to inflame a weak, delicate stomach; the causes, however, are far more frequently extraneous indigestible substances, corrosive poisons, metals, &c., which may have been swallowed.

If the disease make its appearance after the use of indigestible stimulating food or liquors, after an injury received in the epigastric region, or enervation of the stomach, we should immediately place the patient in a half-bath, at a temperature of 75° Fah., the water of which reaches above the stomach. During the bath he should drink water in small doses, (which has stood), but frequently. His whole body should further, whilst he is in the bath, be washed and

gently rubbed by two attendants ; nor is the region of the stomach to be excepted, unless too sensitive to the touch. The patient may rub this region himself, as he is best able to accommodate the degree of pressure to his own sensations.

If the pain be somewhat abated after the lapse of a quarter of an hour, the temperature of the bath should be gradually reduced, by adding cold water, and removing an equivalent of tepid water.

If, during this half hour, the attack be considerably modified, the patient should be conveyed to bed, wrapped in a wet sheet, having previously applied a moderately wrung bandage over his stomach. In the bath, and in the envelopment, small doses of tepid water should be administered to him every five minutes. If the inflammatory symptoms now decrease, we should leave the patient at rest, and not renew the sheet or bandage. If perspiration appear in a short time, we should quietly await its cessation. It is not necessary that the patient perspire copiously, but we should rather moderate excessive perspiration, by loosening the envelopment and decreasing the covering.

When the patient has passed a considerable time in this state, and his position becomes irksome to him, we must wash him with water of a moderate temperature, apply a well-wrung bandage round his body, return him to bed, and regulate his covering, so that he be rather warm than cool. If he feel inclined to eat, we may give him thin water-gruel, or barley-water. The patient must be wrapped in the wet sheet every morning for several days yet, and must remain therein until perspiration ensue, whereupon he is to be washed with cold water, unless indeed the case become worse. Also take cold water in addition to mucilaginous

drinks. His diet must at first be very limited, consisting of slightly nutritive substances only. This disease generally requires the most active treatment.

Inflammation of the Bowels.

This is one of the most dangerous forms of inflammation. The causes are much the same as in inflammation of the stomach. The abdomen is extremely hot and painful. If a rupture be the cause it should be immediately reduced by a competent person.

The invalid attacked with an inflammation of the abdomen, should immediately take a shallow sitz-bath, where he will remain more or less time, according to the state of the disease; the water of this bath should be tepid, or about 65° Fah. On leaving the bath, he should be enveloped in a wet sheet, after having a cold bandage placed on the stomach; both should be removed about twelve times a day. Each time the bath is changed, the invalid is washed all over with cold water. In the mean time, the invalid often drinks cold water, in small quantities. If weak persons, women, or children, are thus treated, the water used for baths and washing should not be quite cold.

Dysentery.

This disease is an inflammation of the mucous membrane of the bowels, more especially of the lower part. There is a burning pain particularly about the *anus*. The abdomen swells, and there is a continued desire to evacuate the bowels. At first, fæces are passed, afterwards only a little glairy or purulent fluid, or blood, and in some forms of the disease, there is no discharge. These attacks are accompani-

ed by stranguary, anxiety, nausea, and violent fever, which readily assumes a nervous type.

The exciting causes are colds, indulgence in unripe fruit, &c.

The treatment of dysentery varies according to the symptoms. At the commencement of the attack the patient should drink cold water copiously and at short intervals; the clysters should be used, at first of chilled water, subsequently of cold water. When the stomach and bowels are thoroughly emptied of their contents, bandages and the wet sheet are to be resorted to.

Diarrhæa.

This disease to be treated much in the same way as dysentery.

Inflammation of the Liver.

The most remarkable symptoms are: acute lancinating pain below the ribs on the right side; at the same time the part affected is very sensitive to the touch; the pain is increased by stretching forth the arm or leg, also by taking a deep inspiration; the whole of the right side, more or less, participates in the suffering. The symptoms are always accompanied by considerable febrile disturbance. The urine is reddish, or of a saffron yellow color; there is constipation, or frequent evacuation, of an acrid bilious matter—the latter symptom generally accompanied by griping pain, nausea, or even vomiting.

It is caused by stimulating food, liquors, colds, &c.

The wet sheet is the chief remedy in this as in all other febrile and inflammatory diseases. As soon as we are as-

sured of the presence of inflammation of the liver, we should proceed to the use of the envelopment, and apply a well wrung bandage to the region of the liver. In changing the sheets and bandage, we must be guided by the degree of fever and inflammation ; a frequent change is only in very rare cases necessary ; generally speaking, they will not require renewal oftener than once in the course of one or two hours, or after a longer period.

In all diseases of the abdomen the strictest attention must be paid to the diet.

Inflammation of the Lungs and Chest.

This is a most dangerous disease. It commences for the most part suddenly, with a violent rigor, followed by heat. To these symptoms are soon added, pain in the chest, which may be confined to one side, or attacks both sides at the same time, shortness of breath, cough with or without spitting of blood, restlessness, palpitation of the heart, and determination to the head. The pulse is weak, small, even remitting, the skin hot and dry, the hands and feet, however, are often cold, the bowels are inconstant, the urine is scanty, cloudy, or of a pale yellow color. The causes favoring or producing this disease are various, such as vicissitudes of weather, augmented activity of the lungs, by violent running, suppressed natural or habitual discharges of blood from the nose, vagina (menstruation), &c. ; loud continued talking, singing, inspiration of impure air charged with corrosive vapors, injuries of the lungs, and inflammation of adjacent parts, &c.

At the commencement of the disease, the patient should be wrapped without delay in a damp well-wrung sheet, a

wet bandage (less wrung out) should be applied to his chest, and he should be laid in bed, with his head raised slightly ; water must be administered from time to time.

The fever, if already present, the general heat of the body, the dryness and heat of the skin, more especially, are the indications of a repetition and change of sheets : the necessity for a renewal of the envelopment presents itself frequently in half an hour or an hour. This treatment must be pursued until the skin is softer, and more prone to exhalation. When the bandage on the chest becomes warm more quickly than the wet sheets, it may be carefully withdrawn, without loosening the envelopment entirely, wetted again, and returned in the same cautious manner. When by this treatment we have succeeded in producing perspiration, we must quietly await its cessation, place the patient in the most convenient position, and unloosen the envelopment where it is too close, because, from this period, the sheets are no longer to be changed. The bandages on the chest only must be renewed frequently, but with the utmost caution, that we may not interfere with, or much less check, perspiration. If we have neglected to furnish the patient with a urinal at the time of enveloping him, it may be pushed up from the feet, until the patient can himself reach it.

The time the patient should remain in the first envelopment must depend entirely on his sensations. If with the appearance of perspiration he feel greatly relieved, he must not be removed for many hours ; for we shall not be successful unless we await the cessation of the first perspiration. The treatment must be perseveringly followed according to the symptoms. Inflammations of the chest

require the most active treatment, and no one should attempt the treatment without well understanding it, and the diseases.

Croup.

This very dangerous disease is confined mostly to childhood. Plethoric children are most liable to it. It is known by a dry, hollow, barking, whistling, or stridulous cough. As soon as we see symptoms indicative of this disease, we must wrap the patient without delay in a well-wrung wet sheet, and apply a well-wrung bandage round his throat, and thus endeavor to produce perspiration. With the appearance of the exhalation from the skin, the dangerous symptoms will generally be relieved, the cough becomes loose, the voice alters, and respiration becomes more free.

Whilst the patient is in the wet envelopment (sheet and blanket), water drinking is not essential; but if he have thirst, it may be allayed with chilled water. If, with the appearance of perspiration, amendment ensue, it will not be necessary to change the applications to the throat, nor the sheets; we should rather allow the patient to remain eight to ten hours in moderate perspiration, which we may regulate by loosening or tightening the envelopment. The temperature of the apartment should be moderate. An ablution of cold water should follow this proceeding, when the patient is to be returned to bed, and lightly covered, to keep up a slight action of the skin. If the patients object to lie in a bed, we may allow them to dress and keep the room; but they must be very careful not to take cold, and especially to keep the feet warm.

It is often advisable to wrap the patient again in the wet

sheets in the evening, even when he has passed the day favorably, and to renew the applications to the throat ; thus to await the cessation of perspiration for a few hours, which is to be followed by an ablution. If the next day be also passed favorably, attended only by a few catarrhal attacks, the wet sheets and ablution may be again used in the evening. Finally, we may gradually, but cautiously, allow the patients to enjoy the open air when the weather is fine, and to return to their former habits.

Exacerbations occur most frequently towards midnight ; at this time, therefore, the patient will require our greatest attention. The use of the wet sheet in this case must by no means be neglected ; the same applies to the applications round the throat, which are to be frequently repeated where an amendment does not ensue. We must not be sparing of wet envelopment or bandages round the throat, where the disease proves obstinate.

The following case is given by Dr. Weiss :

“ In the year 1836 I undertook the treatment of the son of a peasant at B., a robust boy, who was already in the last stage of croup. I found him lying on his back, with his head inclined backwards ; his respiration was accompanied by a loud, rattling sound, his countenance pale, the eyes prominent, the pulse small and thready. He had lost his speech, and had scratched and torn his throat and face in the agony of approaching suffocation. I found him altogether in a very lamentable state, such as we observe in these cases shortly before death. The physician had given him over, and I could not offer the parents more hope than my predecessor. I was, however, urgently entreated to make an at-

tempt with cold water. Unwillingly I complied with the entreaties of the parents, although I had not the slightest prospect of saving the patient, and well knew that in these desperate cases, where every endeavor is fruitless, the death is nevertheless ascribed to the water-cure, without further consideration.

“Water was immediately procured and preparations made for a cold affusion, which was performed at nine o'clock, A. M. Immediately after the affusion, which was directed to the neck chiefly, I had the patient wrapped in a wet sheet, and bandages applied to his throat. Nausea and cough, followed by vomiting, were brought on immediately; a quantity of mucus and a small portion of membrane were ejected, whereupon the patient breathed more freely and fell asleep. Towards the evening slight difficulty of breathing again came on, affusion and the envelopment were again resorted to. About an hour after the latter, perspiration ensued, accompanied by considerable alleviation of the symptoms, although not attended with vomiting or the ejection of adventitious depositions.

“The boy passed the following day more comfortably; he breathed with more freedom, and expressed a desire for food. The second and third day terminated, and the case still proceeded favorable. The friends of the boy began to look upon him as saved; to me, however, his respiration was yet suspicious, and I made this observation to his parents, but they paid but little attention to it, as the boy was otherwise well.

“My residence being three or four miles distant, I left the order that the boy should be wrapped twice daily in a wet

sheet, and washed on the cessation of perspiration with tepid water ; that bandages to the throat should be continued, and the patient drink cold water plentifully.

“ On the morning of the seventh day a messenger arrived, entreating me to come as soon as possible to the boy, who had again suffered an attack in the course of the night. I found him in as bad a condition as before ; our former exertions were therefore frustrated, and little was to be expected from all further attempts, as the disease made rapid progress: at half-past twelve on the same night, indeed, his sufferings terminated in death. According to the information which I was able to collect, he had taken cold in running about barefooted in the garden on the preceding day, which had been both wet and cold. Attention, moreover, had probably not been paid to his covering in bed. After eleven o'clock at night, his mother had heard him cough with the former barking sound : she had risen from her bed and covered him carefully. The cough had left him no peace ; the poor boy had tossed himself restless in bed, and difficulty of breathing was superadded to the cough. When the parents observed the very evident retrogression, they proceeded to affusion, and placed the boy in the wet envelopment in which I found him in the morning. Probable as it is, that the patient had caught a cold, I will not contend that he died in consequence of it ; for, on the fourth day, when I saw him for the last time, his respiration was still suspicious to me ; although, according to the parents' account, it had been quite natural on the fifth and sixth days.

“ Be that as it may, I assert that we shall, with the best treatment with the cold water, but rarely succeed in saving patients in the third stage of this disease. We may,

perhaps, expect the most in these extreme cases from affusion repeatedly applied to the throat. Nature will sometimes deviate from her usual course, and the disease take a favorable turn during our last desperate efforts."

Inflammation of the Brain.

This dangerous disease is known by a very violent pain in the head, redness of the face and eyes, intolerance of light and sound, watchfulness and delirium, either furious or muttering. Causes, the same as in other inflammations. It may be induced by inebriation, mental emotions, &c.

The treatment is very much the same as in violent inflammations of the chest, together with powerful cold applications to the head, which must be often changed, and kept constantly cold.

Mumps.

This disease is in general easily known. As soon as we perceive a swelling of this nature about the neck, we should wash the parts freely with cold water, and immediately apply cooling bandages. Sweating must be at once induced. When the patient has passed sufficient time in perspiration, an ablution with cold water must be performed. After dressing, a bandage should again be applied to his throat; he should drink water moderately, and take exercise in the open air.

In obstinate cases the wet sheet will be necessary.

Scarlet Fever (Scarlatina).

The symptoms are, a scarlet flush, appearing about the second day, on the face, neck, and fauces, progressively

spreading over the body. It usually terminates about the seventh day. It is contagious, and chiefly attacks children. It is known from measles by the efflorescence not being raised above the cuticle.

This disease is to be treated by the wet sheet and other means of subduing inflammation, which will be found very successful. Scarlatina, measles, and small-pox, are all treated much in the same way.

Mr. Munde, in alluding to these maladies, says, "I will now mention three cures, which, without medicine, and with nothing but cold water, I performed in my own family. The first is a case of measles in an adult; the two others are of scarlatina in my two young children.

"My servant, 20 years of age, caught the measles. As she refused all remedies, I proposed to her, in order to quiet the fever, which was very strong, that she should be wrapped up in a wet sheet. Having agreed to this, she soon began to perspire profusely: this determined me to leave her there for seven or eight hours; she was then washed with water at the temperature of 61° Fah. This first perspiration was followed by abundant eruptions of red spots, which covered the whole body. I repeated the same process the next day, when the fever completely ceased. The parents having learned how I was healing their daughter, immediately came to take her home, fearing that such a treatment might be attended with dangerous consequences. In twelve days the invalid came back to her service, assuring me that, whilst at home, she had taken no other remedy than cold water.

"Two of my children, one eight years old, the other five, were attacked with scarlatina; the eldest first. He was

wrapped up in a wet sheet, whilst my other children, as yet unattacked, were repeatedly immersed in cold water. In three days, the one five years of age became ill; no doubt because he had previously taken the infection. The others did not take it at all. The second little invalid kept his gaiety and appetite, and was not wrapped up in a wet sheet, but only washed all over, morning and evening. The fever with both was very moderate. All was going on according to my wishes, when my wife became so alarmed as to suspend the treatment for four days. The consequence was, that the fever soon redoubled its intensity, and the children were in such pain that they could not move. It was so violent at the back of the eldest's head, that inflammation of the brain was to be feared. By my wife's desire, who now saw the folly of her fears, I again began my treatment. This time I gave the invalid a sitz-bath, after which he was enveloped in a wet sheet, which I renewed every half hour. He soon went to sleep: this sleep lasted two hours, and gave proof of the efficacy of my proceedings, and courage to myself to go on with sitz-baths and general fomentations. The regular order of the system being re-established, I replaced the invalid in his dry bed, where he slept for several hours. In two days all danger disappeared. On the tenth day of the disease, a total scaling of the skin came on. The invalid, excepting a little weakness, was perfectly cured. The illness of the youngest was so simple that he only required ablutions. He kept his brother company during the whole of his illness. Three weeks after the commencement of this eruption, I took them out walking in cold weather, without the walk being followed by any bad consequences. I however must add, that two days previous to exposing the

new, fine, and delicate skin to the fresh air, they were bathed, morning and evening, in cold water."

Intermitting Fever.

This fever is denoted by paroxysms, returning at definite periods of time. Its attacks are marked by a succession of heat, cold, and sweating. The cold stage is generally the first observed. The precursors of the cold stage are generally languor, uneasiness in the limbs, pallor of the countenance, and head-ache. When it has lasted for half an hour, one hour, or longer, it is succeeded by a glow and general dryness, and heat of the body. The countenance assumes a flushed appearance; head-ache and thirst increase. The duration of this hot stage varies from one to six hours, or more, and is succeeded by the sweating stage, which usually lasts as long again as the former. Perspiration is now copious, viscid, and sharp, and with its appearance all the symptoms accompanying the hot fit gradually decline. The symptoms are liable to much variation.

Where intermittent fever is not severe, and is caused, perhaps, by biliary or mucous matter in the stomach, our first attention must be directed to the removal of these impurities from the digestive organs. For this purpose the patient must drink cold water abundantly, the effects of which will be acrid or bitter eructation, nausea, or vomiting. In the latter case, large doses of water should be persevered in, to promote and facilitate the vomiting, until the stomach is cleared thoroughly of impurities. If vomiting, on the other hand, should not ensue within thirty-six hours, but eruction and abortive attempts continue, clysters should be used without delay, of water

slightly tepid, and the abdomen should be frequently rubbed with the dry hand or flannel. If this treatment be followed by an evacuation of thin motions, the diarrhoea should be encouraged by a moderate use of water internally, and a continuance of the injections for one or two days.

Should we not succeed in producing purging by these means, the patient may be placed in a half-bath at 60° to 70° Fah., during two or three hours. As long as he remains in the bath, he should rub the abdomen himself, whilst two attendants perform the same operation on the other members of his body.

After the bath and friction, the patient should dress and take exercise in the open air, to equalize the temperature of the whole body. If the first bath, and the potations and clysters, be not followed by purging or vomiting, the half-bath must be repeated.

It sometimes happens, that the paroxysms of fever recur notwithstanding these evacuations, or that neither vomiting nor purging ensue under this treatment, and that the fever remains. In this case the disease calls for our greatest attention; and it will become necessary, with every fresh attack, to wrap the patient in the wet sheet and blanket, and leave him in that situation until perspiration has ceased. The envelopment should take place as soon as the cold stage is past, and heat succeeds. If the paroxysm of heat be protracted, apply wet sheets. It will be further requisite to apply repeated bandages to the head, until the action of the skin is fully established. The patient should, during this period, drink cold wa-

ter plentifully, and continue it even during the process of sweating.

As soon as perspiration ensues, the sheets, if the envelopment be too close, are to be loosened, so that the patient may be enabled to move in them, a great relief to him in this position. After the cessation of sweating, which may be in one hour, or not before two or three hours, the patient may take a cold bath, but the temperature of the water should not be below 55° of Fah. Where a bathing vat cannot be obtained, rubbing the whole body with wet cloths will suffice to reduce the heat.

The patient should, after dressing, take exercise for several hours, occasionally drinking cold water, and not until after this exercise should he take light nourishment; he may also, at times, wash the abdomen with cold water, and wear well-wrung cloths round the body.

The following cases are given by Dr. Weiss :

"A man, aged forty-six, who had suffered during eight years, alternately of nervous fevers, affections of the liver, and jaundice, was received into the establishment on the 8th July. Latterly he had suffered for more than a year uninterruptedly, of an intermittent fever, which defied all remedies. The paroxysms came on at $2\frac{1}{2}$ P. M., with violent shiverings, lasting about two hours, and were followed by heat and thirst, but not by sweating. The patient, however, complained of languor, dry cough, pain in the region of the liver, loss of appetite, a bitter taste, and irregularity of stools, the bowels not being open daily.

"Our first endeavor was to regulate the evacuations. As we could not succeed, we endeavored to produce sweating, as soon as the hot stage made its appearance.

Perspiration was not copious the first time, but it subsequently increased. The patient had now undergone these sweatings, followed by baths, bandages round the body, clysters, and large doses of water for six weeks, and had at the same time observed a judicious diet, but without beneficial result; sitting-baths, at first in vessels for the purpose, afterwards in the river, were therefore added, but these proved also insufficient. With the best conception of the case, and consideration of its prominent symptoms, both during and after the paroxysm, and with the most careful decision on the treatment, we could not succeed in arresting the progress of the disease. After the use of cold baths, continued for two hours or more, the fever disappeared indeed, but soon reappeared with another type, and subsequently these baths lost their effect. All modifications of treatment had now been tried in vain, with the exception of the douche, during nearly three months; and I had already formed the determination to dismiss the patient, if the douche should prove inefficacious. I placed little reliance in this form of bath, knowing, from experience, that the use of it in these fevers rather interferes with the cure. I have frequently had opportunity of witnessing the sudden return of paroxysms of fever after one single douche.

“This patient now made use of the douche once daily during six minutes, but the fever returned, without any change, on the usual days. On the ninth day, however, I observed that his skin assumed a remarkable yellow tinge. On inquiring into the state of his health, he answered that he had felt languid and sleepy since the preceding day; but his sleep on the ensuing night was disturbed by startling dreams, notwithstanding his sensations of weariness.

“The next day was the day of fever : the paroxysm was announced by intense head-ache, and came on two hours earlier than usual. The heat and dryness of the surface continued, notwithstanding the frequent change of sheets during this and the following day, until perspiration at last ensued, accompanied by complete jaundice. The use of a lavement now produced a copious evacuation, followed by a second in two hours, in both of which several gall-stones passed away.

“From this time the fever did not return, and the jaundice disappeared in the course of eight days. The patient now recovered his appetite, his rest was undisturbed, his motions were regular, and his sensations generally were those of health. In a few days he was discharged cured.

“The second and more singular case was that of a lady, aged thirty-six. She was of scrofulous diathesis, but had enjoyed good health from childhood to her seventeenth year. In her eighteenth year she had been attacked by nervous fever, and had suffered in the following year during eighteen weeks of an intermittent. She had been troubled afterwards for a length of time with perspiration of the feet. After a cold, this perspiration was suddenly suppressed, and she then suffered during five months from shortness of breath. The difficulty of breathing terminated with swelling of the legs and ancles. By the use of various remedies she was cured of the latter symptoms, and the patient had passed a year in tolerable health; when several tetter made their appearance on the thighs, extending to the knees. This eruption caused her much uneasiness, and was removed by the use of an ointment. A short time after this cure, the intermittent fever again made its

appearance, and had been treated in vain with a variety of medicines during sixteen months, when she was received into the establishment.

“The paroxysms came on every three days at about eight o'clock A. M. with a cold fit lasting for one hour, followed by heat and slight perspiration; great thirst and slight head-ache were experienced. The patient was very pale and emaciated. The bowels acted irregularly; nor could a favorable change be effected by the most powerful operation on the organs of digestion. The action of the skin was defective; all measures which usually promote perspiration failed, or had but a partial effect, in this case. The envelopment produced anything but copious perspiration, and the patient was obliged to bathe with a dry skin, especially after having lain for a long time in the wet sheets, because the short sweating fit which followed the hot stage of the fever had then long passed. All modes of applying the water, even the douche, (which I use as an exception only,) were of little efficacy during a period of thirteen weeks. The fever indeed did not make its appearance for several days, but returned subsequently with its former obstinate character. The patient now began to despair of recovery, and could scarcely be prevented from exaggerating the treatment. She ordered her attendant one evening to wrap her up closely, that the blanket might not become loose, as she was determined to pass the whole night in the envelopment and to force perspiration. The attendant obeyed her orders, and carelessly left her; but she had scarcely quitted the room, before the patient was seized with fear, accompanied by frightful images and fancies: the idea of an apoplexy, strangulation, robbers,

and a number of fancies of the kind, tormented her excited imagination and possessed her mind. In vain she attempts to loosen her bonds, the close encasement defies every effort. This circumstance augmented her anxiety and trouble, and the poor sufferer began to perspire violently. Before eleven o'clock at night she was quite bathed in perspiration. Every effort for freedom was in vain, and exhausted her (according to her own account) to that extent, that towards three o'clock in the morning she fell into a state of insensibility; nor did she recollect the arrival of the attendant at five o'clock, or the occurrences after that time. The servant, on entering the room, found the patient in apparent sleep, and observed, when she received no answer to repeated questions, that her mistress lay bathed in perspiration, and nearly lifeless. Promptly and without consideration she tears the envelopment open, washes her head, chest, and arms with the cold water she had brought with her, and has in a few minutes the pleasure of seeing her patient return to her senses. She now immediately ran in quest of me.

"I found the patient in a very exhausted state; her voice was scarcely audible, she complained of violent head-ache confined to the forehead, of singing and other noises in the ears, and especially of a sense of oppression and weight in the chest. The thirst was excessive, the mouth dry, respiration short and hurried. Thus several days passed, and the patient did not recover, although applications of water, known to invigorate and strengthen, were actively employed for her relief.

"Constipation seemed to defy the clysters and other applications, and not until the expiration of the fourth day was

the first evacuation procured. The total inactivity and dryness of the skin, caused by the violent excitement of the system and by protracted perspiration, rendered it necessary to return to the use of the wet sheets, to stimulate the skin to action, and, if possible, again to provoke copious perspiration. The envelopment succeeded: the patient perspired without much inconvenience, and from this time the activity of the skin perceptibly increased. Ten days after the accident before mentioned no paroxysm of fever had recurred; but the patient complained of dryness of the mouth, nausea, pain in the region of the liver, and of interrupted rest. The next morning she showed me a spot below the left breast, where the skin was red and inflamed, which caused her great inconvenience, on account of its heat. A bandage, and, as there had been no alvine evacuation for three days, a lavement, were ordered. Three days after this a large tetter presented itself at the spot where the skin was previously inflamed. All the untoward sentiments gradually declined from this time, and the fever entirely subsided. I should very much have wished the patient to remain in the establishment until the affection of the skin had been cured; but circumstances would not permit her to prolong her stay."

Nervous Fevers.

These must be treated according to the symptoms present. The following cases, as illustrative of the treatment, are given by Dr. Weiss.

"Miss N. N., from P., aged twenty-one, of robust and plethoric constitution, had menstruated regularly from her eighteenth year, and enjoyed uninterrupted health from earliest youth, although she was of scrofulous habit. I

must not forget to mention, that she had suffered in her infancy of measles and scarlet fever. She came to the institution as companion to her sister, who was an invalid, and not to use the cold water cure. She sickened on the 23d August with violent head-ache: her eyes were prominent, the heat of the whole body was increased, the skin dry, the appetite impaired, but the thirst excessive, and she complained of a sense of weariness and weight in the limbs. She was ordered to use cold water internally, and, as there was constipation, clysters, and bandages to the head. This treatment neither produced vomiting nor copious evacuation of the bowels within the space of twenty-four hours, and the patient was wrapped every five minutes in a wet sheet, on account of the increased heat of the body, which was moderated in the course of thirty-six hours. By the third day the head-ache, heat, and dryness of the body were nearly overcome, and menstruation had appeared, but less copiously than formerly; appetite had returned, and she could rise from her bed.

“During her period, the wet applications, baths, &c., were discontinued, according to my usual practice. Whether I acted judiciously in this case it is difficult to say. I certainly blamed myself severely when, on the fourth day after her period, or on the eighth day after sickening, she complained again of indisposition, which was accompanied on the same night with diarrhœa. The patient passed the night restlessly, and the stools, five in number, were copious and mixed with blood.

“On the following day the evacuations were of the same character, notwithstanding the use of lavements, to which starch was now added. In nine hours after the first, and

In twenty-four hours after the second clyster, no evacuation followed. The next motion was without blood, only rather darker in color. This improvement remained during the following days ; but on the tenth day of her indisposition, typhus was completely established. The skin, especially when the fever made its appearance, was burning, dry, and rough ; the head-ache was supplanted by delirium, the pulse was small (130 to 140 strokes in the minute,) the urine was dark-colored, the muscular power declined daily remarkably, the countenance changed more and more, and diarrhœa recurred generally every fifth day. Although the greatest attention was paid to all the symptoms to moderate the fever betimes, the period of the twenty-first to the twenty-third day passed without the desired crisis. Many symptoms had become worse ; the delirium was permanent ; the patient muttered constantly ; the tongue, which up to this time had been moist at the edges, became quite dry and covered with a dark viscous coating, which adhered to the teeth, and subsequently to the interior of the nose.

“After water had been used without effect for several days in various forms to stimulate the skin and force a crisis, and the state of the patient having become bad enough to justify the most unfavorable prognosis, her friends called a consultation of several physicians, residents at the time at the establishment, to decide whether she might yet be saved by any means. The five physicians declared unanimously that the disease had proceeded so far that, judging from the symptoms, she could scarcely recover ; they could not, however, agree in the choice of the medicines. Two of them advised tonics, to support the

declining strength,—the others, acids or antiseptics, to arrest the decomposition of the fluids. This diversity of opinion caused the water-cure to be continued. Thirty-four days were thus passed without any favorable change in the condition of the patient. Her mother now sent a physician from her native place, who recognized typhus immediately, and gave not the slightest hopes of her recovery. To do something, however, he prescribed arrow root, with a little muriatic acid, one table spoonful to be taken every hour. After the third dose, diarrhœa, which had not made its appearance for many days, came on so violently, that several stools mixed with blood were passed involuntary in the course of one hour. Convulsive movements of single limbs, swelling of the abdomen (*typhinitis*,) and increased tremor, were added to this. This induced the physician to withdraw his prescription, and prefer the continuance of the treatment by water, as it had shown itself more advantageously than any other treatment.

“Clysters with starch, and well-wrung bandages round the body, brought about a cessation of the diarrhœa, and attempts were renewed on the ensuing days to incite, if possible, a favorable crisis, by friction of the whole body, and by envelopments in the wet sheets.

“On the evening of the forty-first day, the patient for the first time slept in the envelopment, and at the same time the skin became moist, and remained so until towards the morning. The patient felt already somewhat relieved. On the next day and about the same hour, exhalation from the skin returned and continued during the following day. The urine, which had now for several days not

been passed involuntarily, had become of a lighter color, and the patient slept uninterruptedly. On the forty-fourth day the patient for the first time expressed by signs a desire for food. Her voice was scarcely audible; the tongue, lips, and nose, were coated and fissured. Forty days had therefore elapsed,—during which the patient had taken nothing beyond water and a little mucilage, which had been offered to her from time to time.

“More favorable symptoms of convalescence appeared from this time. The patient recovered of course slowly; not only had her hair and several nails fallen off, but the skin had totally desquamated during the period of recovery. In the course of four months she bore the appearance of perfect health, although she yet complained of debility.”

“A no less dangerous case, in which there was scarcely a chance of recovery, is that of John Borowski, of Jaroslaw, a robust plethoric boy, aged thirteen. He came to the establishment with his mother, who used the water-cure. On the morning of the 16th of June he rose with violent head-ache, giddiness, suffused eyes and ringing in the ears, and complained of a sense of oppression on the stomach, nausea, and weight in the limbs. I prescribed immediately large quantities of water, clysters, and a bandage round the body. Neither the mother nor any other person could persuade the boy, who was by nature obstinate, to obey one of my orders. He was to take at least a sitting-bath, but would not persevere long with this remedy. He took a foot-bath for a few minutes when his head-ache became insufferable, but without effect. Beyond a bandage round the head he would tolerate nothing. He passed a very rest-

less night, and the next day and night, without properly persevering with any one application. His case became daily worse. On the fourth day the first symptoms of fever showed themselves: hot and dry skin, alternating chills and heats, small thready pulse, increased head-ache, flushed countenance, peculiar dull appearance of the eyes, yellowish furred tongue, and unquiet sleep. The mother, who had helped to frustrate all serious measures, agreed at last with me in the necessity of earnestly carrying the prescribed treatment into operation, as she had some apprehensions for the life of her child. The heat and fever were now somewhat modified by the copious potations, the use of the wet sheets, and cold baths, and the complaints of head-ache ceased; but periodical delirium and hardness of hearing supervened, and in twenty-four hours eight to ten loose stools were passed. The diarrhœa was checked by lavements with starch. On the ninth day frequent fœtid sweats suddenly came on. Although nothing was done to promote this profuse perspiration, it broke out so frequently that it not only exhausted the patient, but led to total deafness and stupor. In several days we succeeded in checking the colliquative sweats; a viscid fluid however continued to exude from the skin, without any relief to the patient. On the other hand, more serious symptoms appeared, prognosticated an unfavorable issue.

“By the thirty-first day the disease had advanced so far that, judging from circumstances, the patient was nearer death than recovery. He lay extended on his back motionless and without uttering a sound; his eyes were half closed; his lips and teeth were covered with sordes, portions of

the body were imbued with clammy perspiration, and the odor of the exhalation resembled that of a corpse.

“After the patient had lain for six days in this lamentable position, (most dreadful to the mother,) and various suitable kinds of applications had been used without producing the slightest change, I was induced to place the patient, who was already rigid, in an empty bathing vat, and pour cold water over him. He made a few slight movements indicative of displeasure. Neither during the affusion, nor after the patient was returned to a fresh bed, was any change perceptible. I must however observe that there had been for five days, no stool, but that an involuntary discharge of a thin dark-brown fluid ensued, immediately after placing him in the empty bath. Although the cold affusion had produced no favorable change, I had it continued twice daily, and fresh water conveyed into the mouth of the patient from time to time—a proceeding which required great caution, as it readily passed into the trachea, producing cough, hiccough, and other inconveniences.

“I was prepared every morning to find the patient dead, but he remained yet in the same state without any change until the morning of the thirty-second day, when a normal heat was perceptible, and the skin became more soft and moist. In all other respects his state was the same; but in the course of the night he had been better able to swallow the water offered him, and had consequently taken rather more.

“The following day and night were passed in like manner. The next morning was rather more propitious: the skin was moderately warm and moist, respiration more free, and

an alvine evacuation ensued, which seemed to give the patient much relief. Affusion had been remitted for two days, and was subsequently discontinued, since a favorable crisis had in all probability made its appearance, and every interference would have been superfluous. A new favorable symptom presented itself from this time daily; the tongue became more moist, the sordes were removed from the teeth, lips, and nose; and on the thirty-seventh day, the patient for the first time asked for food.

“Amendment progressed slowly but steadily; the patient slept quietly, but when he was raised upright in bed he was troubled with cough, oppression and pain in the stomach, for some time. These aliments disappeared subsequently, and the bowels became regular, without producing constipation, which is generally observed. Recovery proceeded favorably without requiring the use of cold water in any particular form, except for the purification of the body. No further auxiliary was necessary to complete the cure beyond the observation of a careful regimen. I will give a short sketch of another successful and remarkable case.

“On the 3rd of August I was called upon to visit a boy eight years of age, whose two elder brothers had died shortly before of a nervous fever. He had sickened, according to the parents’ account, on the 9th of June, 1836, in the following manner. After having passed a restless night, he complained in the morning of violent head-ache, giddiness, when in the erect posture, languor, nausea, &c. A physician, who was called in, considered these symptoms to be the precursors of fever, and was probably correct in his diagnosis. On the following day the malady had taken the same course as in the case of his deceased brothers, and

Was attended with delirium, impaired hearing, hot and burning skin, loose stools, a rapid decline of his muscular powers, and change of countenance, although the medical man had used every exertion to arrest the progress of the fever.

“The spasmodic nervous symptoms had attained their acmé by the fourteenth day, on which a peculiar phenomenon was observed: the delirium and diarrhœa ceased suddenly, the heat of the skin sank also, but without perceptible exhalation.

“From the sixteenth to the fifty-seventh day the disease defied all medical skill, and remained without alteration. The history was as follows: after the physician had lost all hopes, the parents came to me for assistance. I found the patient reduced to a living skeleton. His physical strength was so subdued that he could not raise himself in bed, his countenance was altered, and although conscious and sensible of all that passed around him, he had not spoken a single word for six weeks. No sound, or even attempt to speak, followed the questions put to him. The mouth could only be opened with difficulty for the introduction of liquid food. The teeth and tongue were covered with viscid, fetid sordes. The abdomen was rather inflated, the evacuations had been suppressed for twenty days, and the urine passed away involuntarily every other day.

“With little hope of success I commenced the treatment by water. My prescription was the following: the patient to be placed in an empty bathing vat twice a day, and several buckets of cold water to be thrown over him; after the affusion, to be returned to bed and well covered, a little cold water to be introduced into his mouth every half hour, and two clysters to be given daily. After this treatment had

been pursued for two days, or on the sixtieth day of the disease, the skin felt already moist, and the clysters were discontinued, as there had been several loose stools.

“On the third and fourth day, towards the evening, a rather copious perspiration, continuing till the morning, ensued. At its cessation affusion was performed, and the patient wrapped in a wet sheet, in which he passed the night, sleeping occasionally. During the day he slept at times, and gave signs of a desire to make water, and take food, which he had not done before.

“About the seventh day the action of the skin continued during the night and day, with a slight interval only towards three o'clock in the afternoon, at which time the patient was washed with water at 59° of Fah., and the wet sheets and affusion were remitted. From this period convalescence became very perceptible, although its progress was but slow. On the tenth day of treatment, and the sixty-eighth day of the disease, the parents heard the first sound of the child's voice, which had been lost for seven weeks: they had, in fact, despaired of ever again hearing it. He regained his speech perfectly, with all his other faculties. On the eighty-first day he made the first attempt to walk, but could only persevere for two minutes, he was from this time, however, led about for a few minutes daily, until he was able to enjoy the open air.”

Jaundice.

The treatment in acute and chronic jaundice must tend to produce critical deposits in the urine. To reduce the fever the patient should sweat at least once daily in the wet sheets, until spontaneous perspiration, or critical deposits in

the urine, take place. In the former case, we must remit the use of the envelopment, but endeavor to keep up moderate diaphoresis uninterruptedly, until the yellow color disappears from the skin. Where sediments appear in the urine, the sweating may be continued until the patient recovers. Copious potations of cold water, exercise in the open air, and the observance of a simple diet, are necessary during this treatment. To regulate the secretions of bile, it is advisable occasionally to wear a warming bandage over the region of the liver.

Dyspepsia, Indigestion, Constipation, &c.

Costiveness is a prevalent inconvenience, and often becomes a disease. The causes are various: the principal are, a sedentary life; the bending of the body during sitting; the hardening of the liver; the weakness or atony of the intestinal canal: we must also add, the habit of drinking too little water. To cure it, it is necessary to take exercise, to drink a great deal of cold water, to wear a wet linen bandage on the abdomen, and two or three clysters daily—one immediately following the other, should it be requisite. Cold food should be taken instead of warm; fruit should be plentifully eaten; and care should be taken not to eat any thing greasy or heavy. When costiveness has continued for several years, add to this regimen, sitz-baths and foot-baths; douches, directed on the abdomen, correct the weakness of this part.

Spasm of the Stomach.

This affection is often caused by bad articles of food, as cheese, smoked and salted meat, fat or rancid substances;

repletion, over-fasting, violent mental emotions, grief, pain, &c. It may be associated with hypochondriasis, hysteria, and pregnancy ; organic disease, cancer, &c.

The treatment should be guided by the causes which may be present. If the spasms originate from substances in the stomach, copious potations are indicated ; and we must tickle the fauces with a feather, to produce vomiting, which should be encouraged by copious draughts of water, until we believe all impurities to be removed. The copious evacuation of the bowels, or clysters, will often be advantageous.

Colic.

The cases of colic are various. The treatment must depend upon the origin of the disease. Where gastric impurities are the cause, they should be removed in the same manner as in the treatment of spasm of the stomach.

In flatulent colic, clysters are the chief remedy, for one injection is frequently sufficient. If the injections, even after changing their temperature, be rejected without affording relief, we may lay a simple well-wrung bandage over the whole abdomen of the patient, and then pack him up for sweating.

“When every thing else has failed, I have known this affection of the bowels overcome, by taking the patient out of bed, and dashing two or three pails of cold water upon the abdomen. Sometimes it will open the bowels immediately, just as it will relieve spasmodic stricture. If all other things fail, it should be had recourse to.”—*Professor Elliotson, of London.*

Wounds.

Keep the wounded part in tepid water until it ceases bleeding, then put on a heating bandage. When this becomes warm, put another larger one over it, so that it may extend far beyond the part afflicted. If the foot is wounded, let it remain in the water for an hour twice a day, to draw out the inflammation; then apply the bandage night and day, but continue it up to or above the knee, in order to extend the circulation.

Tetanus.

This affection is denoted by an involuntary and continued spasmodic contraction of the muscles of the head, throat and neck, of the trunk, and of the extremities. The spine and neck become rigid, the head is bent backwards, or forwards, or to either side. The rigidity is attended with violent pain; the countenance is pale, and covered with cold perspiration, whilst the rest of the body retains its natural heat; respiration is difficult, speech is impaired, and consciousness is partially or completely lost. These exacerbations generally continue for a few minutes—in rare cases, during half an hour. The attacks then cease, leaving a dull sensation in the limbs for a length of time.

Tetanus is generally complicated with other diseases, the most frequent causes are, wounds implicating nerves and tendons, lacerations and contusions, fractures, injuries, in which a foreign body remains in the wound, colds, potent poisons, suppressed hæmorrhage, loss of fluids, concussion of the brain or spinal cord, and violent mental emotions.

In the treatment of tetanus, our attention must be

directed towards the removal of the primary disease, if, indeed, the tetanus be not idiopathic. If we succeed in curing the original affection, the spasmodic contractions will generally cease. Foreign bodies must be removed from the system, suppressed affections should be produced.

During an exacerbation, little or nothing can be done. Cold affusion, half-baths, and friction, are the only remedies which we can call to our assistance. After having adopted one of these processes, we must convey the patient to bed, and endeavor to bring on perspiration by sufficient covering. The intervals between the exacerbations must be employed in enveloping the patients in wet sheets. The patient should perspire but slightly, and perform an ablution afterwards with cold water. The quantity of cold water taken internally must depend upon the constitution of the individual, but the potations should be as copious as possible; in addition to this treatment, we may rub the body frequently, and apply warm bandages to parts chiefly affected with spasm. Every mode of employing cold water which is attended with loss of time is injurious; the shorter the time required for the application, and the more frequently it can be repeated, the more beneficial will be its action. In obstinate cases, we may resort to cold plunging-baths, cold affusion, and even to the douche; but the body must become thoroughly warm before we repeat any one of these applications. The douche and friction should be chiefly directed to the spine. Half-baths are of essential service for the relief of spasmodic contraction; but the temperature of the water must be at 65° to 70° Fah. As long as the patient is in the bath, he must be rubbed by two persons continually, whilst water of the same temperature

is to be poured over him. Where an injury is the cause of tetanus, the wound must be kept moist with wet bandages, applied, if possible, in the course of the nerves implicated.

Lock-Jaw.

Lock-jaw is brought on by the same causes as the former disease, and requires the same treatment. Where children are affected with lock-jaw, we must never forget to inquire into the cause, which may be gastric irritation, produced by acidity, worms, &c. Where we have detected a cause of this nature, we should endeavor, as soon as the spasmodic contractions cease, to purge the body by clysters, by copious potations, and bandages round the abdomen. The patients must observe a rigid diet, eat little, drink cold water copiously, and pass much of their time in the open air.

Fainting.

Fainting is a well-known malady, denoted by a certain diminution or total suspension of consciousness, sensation, motion, respiration, and circulation. A severe form of fainting, the total suspension of all the evidences of vitality, but where life continues, is called suspended animation, (*asphyxia*,) in common parlance "a trance." Fainting is sometimes preceded by weariness, a disordered head, vertigo, dimness of sight, palpitation, nausea, anxiety, and pallor of countenance.

The duration of a fainting fit is, generally speaking, confined to a few minutes; the patient then recovers with sighing, the passage of flatus, with vomiting, or evacuation of the bowels, and the warmth of the body and the color of the countenance then gradually return.

Hysterical or hypochondriacal persons, and patients suffering from congestions, are most subject to fainting.

The first point in the treatment of syncope, is to remove all articles of clothing which confine the body, as tight clothing, waistbands, and garters. The patient must then be placed in the sitting posture, and sprinkled or washed with cold water, until the fit is over. To diminish the predisposition to fainting, the body should be washed daily with cold water, and the patient should drink nothing but pure cold water, avoiding all warm narcotic beverages, and should, further, take much exercise in the open air. Clysters are likewise indicated.

Apoplexy.

This disease is denoted by a sudden loss of consciousness, sensation, and voluntary motion. Apoplexy is generally sudden in its attacks; if it be attended by precursors, they will be—head-ache, giddiness, a red bloated countenance, violent pulsation of the temporal and carotid arteries, stammering, nausea, spasmodic contractions of the muscles of the face, an irregular pulse, uneasy sensations at the back of the neck, and great anxiety.

In an attack of apoplexy, the patients fall suddenly, and are senseless; the breathing is difficult, and stentorous; the mouth is covered with foam; the pulse and beat of the heart continue, but unequally; the eyes are prominent and fixed; the countenance is covered with cold perspiration; the hands and feet are cold.

Death may ensue in a few minutes after an attack, or in a few hours, or it may be delayed for two or three days: the disease may, however, terminate in perfect recovery,

leaving paralysis, sometimes of the half of the body, (*hemiplegia*,) but more frequently of single limbs or organs ; or disturbance of the mind, and general debility, may also be its sequences.

Plethoric, robust persons, with a large head, and short, thick neck, are predisposed to apoplexy. The disease occurs most frequently between the fortieth and sixtieth year of life, and is brought on, or favored, by the following exciting causes : inflammation of important viscera, of the brain in particular ; nervous diseases ; lesions of the heart ; or large blood-vessels, causing disturbances of the circulation ; debilitating, depressing passions ; considerable loss of blood, and other fluids.

The treatment of this dangerous disease is no easy task for the most experienced physician ; the non-professional reader should, therefore, never venture to undertake the treatment. Where medical aid cannot be immediately obtained, the following rules should be observed : in the first place, all the wearing apparel must be removed, and the patient must be placed in the sitting posture ; a few buckets of cold water should then be poured over him, whilst several persons rub his body continually. If vomiting ensue, it must be encouraged, by administering to him at first tepid, and subsequently cold water. Clysters should be immediately used. When the patient is somewhat restored, he must be enveloped in the wet sheets, to perspire. The sheets should not be closely adapted to the body, least of all confine the neck. The patient must lie almost in the sitting posture in bed, and requires careful watching, that we may be able to afford him the necessary assistance in case of another attack. With the second accession, he

must be immediately removed from the sheets, and subjected again to friction and affusion. If the desired perspiration appear, it should be encouraged, if possible, for some time, and we must administer cold water to the patient, provided he can swallow. When the patient is removed from the envelopment, every thing should be in readiness for a rapid ablution, in order that we may return him quickly to bed, and cover him well up ; for it is imperatively necessary to keep up the action of the skin. If the patient improve considerably with this treatment, we may repeat it every twenty-four hours until he is able to leave his bed. The envelopment in the wet sheet must be subsequently continued once daily ; the patient, however, need not perspire, but should merely remain in the sheets until he becomes warm. Where the skin is very dry and brittle, and evinces but little activity, the patient must sweat again every third or fourth day ; and the parts chiefly affected must be covered with warming bandages, rubbed, and frequently washed with cold water. If the parts do not acquire their perfect activity by these proceedings, the *douche* must be brought into application, and the whole of the treatment necessary in paralysis.

Torpor from Cold.

Persons in a state of torpor from cold should be laid on snow in a moderately cold place, and the whole body should be covered with snow ; and where this is not to be obtained, they should be immersed in cold water, leaving the mouth and nose only free ; in this bath the patients must remain until symptoms of life are observed. They are then to be conveyed to an unwarmed bed, and the whole body

be rubbed with flannel, but cautiously, to avoid injury to the skin. When animation returns, cold water must be administered to the patients until they can assist themselves to drink. Frozen limbs, or parts affected by frost, should be treated with snow or cold water, and with foot and hand-baths; bandages and ablutions may also be brought into operation. Where open sores or ulcerations are observed, we must use water of a higher temperature to heal them.

Apparent Death.

This is distinguished from actual death, by the absence of symptoms of decomposition; of the cadaverous odor and of the blue or green spots on the skin. Persons, apparently dead, frequently retain consciousness, feeling, and especially the sense of hearing for several days; but they are totally incapable of moving or of giving other signs of life.

The causes of *asphyxia* are various, viz., exposure to deleterious gases, carbonic acid gas, the air in sewers and cellars, where new fermenting wines are deposited, difficult parturition, constriction of the air passages; it is also the effect of continued violent cold, &c.

The first attention must be paid, in the treatment of the half-dead, to the removal of all wearing apparel, and to procure them pure fresh air, especially in summer time. Our next proceeding must be to pour cold water upon them occasionally from a certain height; they should then be well rubbed and brushed by several persons, the pit of the stomach and the soles of the feet more particularly: we may also endeavor to inflate the lungs, and use clysters. Where all these attempts are fruitless, we may tickle the fauces with

a feather, and try a warm bath, especially in cases of hanging, strangulation, and of drowning.

Paralysis.

This term implies a loss of the power of motion in the muscles of the whole body, or in single parts; a state, therefore, differing materially from loss of motion in consequence of stiffness, distortion, or ankylosis of joints.

Total paralysis deprives the whole body of sensation; partial paralysis is of more frequent occurrence—*e. g.*, paralysis of one side, (*hemiplegia*;) or of the upper, or more frequently of the lower extremities, (*paraplegia*.) Paralysis is occasionally confined to single organs, as to the lungs, the rectum, the bladder, &c.; it sometimes comes on suddenly, at other times gradually and insidiously; in the latter case, a sensation of frigidity, numbness, formication, and tremor, is experienced in the part threatened with an attack. A paralysed limb is cold, flabby, emaciated, or anasarcaous, (dropsical.)

The exciting causes are, diseases or injuries which diminish or destroy the power of motion. Pressure on the cerebral and spinal nerves will produce paralysis, which always results when these nerves are injured, or pressed upon by accumulations of blood or other fluids, or are violently stretched or lacerated, in cases of *exostoses*, or of curvature of the spine. The nervous influence is moreover weakened, or totally destroyed by various other injurious impressions; by loss of blood, effusion on nervous matter, by loss of semen, want of food, diarrhoea, the use of various drugs, exposure to the poisonous vapors of lead, mercury, arsenic, &c.

Paralysis is frequently incurable, or the cure is at least

attended with difficulty. Hydrotherapeutic treatment may be resorted to with some chance of success as long as an occasional sensation of itching or pain is yet perceptible in the paralysed limb, or a slight degree of mobility still exists in the part affected. The paralysed patient must be wrapped every morning in the wet sheet, and should remain in that position until he is thoroughly warm; the envelopment must be followed by an ablution. Where the patients are not too weak, they may perspire in the envelopment every third day; they must also wear warming bandages on the parts affected, where this proceeding is practicable. A wave-bath, (in a river,) if possible, should be taken every other day, and alternate with a douche. The action of these baths will be greatly increased if we have the patients well rubbed with horse-hair gloves for a few minutes before the bath.

In cases where the bladder or rectum are affected, cold sitting-baths and cold clysters are indicated in addition to the douche. Where the douche cannot be obtained, cold affusion must be resorted to, the stream of water being directed to the parts affected. The treatment in paralysis should tend to excite and invigorate; cold water, therefore, must be used at short periods, but frequently. Our chief endeavor must be to increase the action of the skin; hence, the patients should not be debilitated by sweating, nor by the use of derivative baths; but we must endeavor to strengthen them by friction and cold ablutions. Where the skin is dry or brittle, this inconvenience is to be met by the envelopment in the wet sheet.

The internal use of cold water must depend upon the constitution of the patients; but they should drink as much

as possible, excepting the paralysis affect the urinary organs, which would be debilitated to a greater extent by the water. If, in the course of this treatment, an eruption present itself on the part affected, or if we observe its temperature to increase, or reaction, or even exhalation, to have taken place, these will be very favorable symptoms, and should excite the patient to persevere with the treatment, as considerable relief may be thence expected. In every thing that relates to diet the patients must conscientiously perform their part; they should take much exercise in the open air, avoid excesses of every description, and confine themselves to mild, nutritious food.

Delirium Tremens.

Where this disease is ushered in by premonitory symptoms, they will be observed to consist of loss of appetite, loss of sleep, confusion of ideas, and general debility. The accession generally presents itself with delirium. The patients are prepossessed by one idea, of which they cannot divest their imagination. For the most part, they believe themselves to be pursued by men or animals, or by creations of their own imagination. They fancy themselves attacked, especially at night-time,—hence their inclination to leap out of bed. The majority of the superficial muscles of the body are in constant motion; sleep is totally lost; the countenance is pale; the eyes are bright, and vacantly fixed; the tongue is moist; the skin hot, and covered with a clammy, fetid perspiration; the region of the liver and stomach is swelled; there is slight thirst, and the action of the bowels is disturbed.

This disease is, generally speaking, of short duration; an

attack may extend to ten or eighteen days, and is brought on by the immoderate indulgence in the use of brandy and other spirituous liquors.

The chief point in the treatment, is to purge the alimentary canal by copious water-drinking. If vomiting ensue, it must be encouraged by perseverance in the use of cold water internally ; where there is no vomiting, we must produce purging by the use of clysters and bandages round the abdomen. When the alimentary canal is thoroughly cleared, we should wrap the patient in wet sheets, and apply at the same time cold bandages to his head repeatedly. The patient should remain in the envelopment until diaphoresis ensues. The sooner perspiration appears, the oftener the sheets may be changed ; but five or six repetitions in the course of the day should suffice, for, by changing the sheets very often, too much heat will be abstracted from the body. Immediately after the first envelopment, the patient must be subjected to an ablution with cold water and conveyed to bed, if he feel exhausted. The bed should be kept clean and well aired. Where there is considerable determination to the head, as the continuance of delirium will indicate, it will become necessary to persevere with the cooling bandages to the head ; warming bandages to the abdomen afford also great relief in these cases. To prevent the patient from escaping, the doors and windows must be well fastened ; for if we attempt to restrain him by coercion, his state will be rendered worse ; we must, therefore, snatch those moments when the patients feel most composed in the early stage of the disease, for the use of the envelopment.

These patients are very quickly brought to their senses

by a judicious use of cold water. At first, they are certainly much exhausted, but fall asleep the sooner, and sleep must be regarded as the true crisis. The longer the patients sleep, the sooner they will recover; they occasionally continue in this state for twenty or thirty hours without once waking; nor should their rest be interrupted if they do not wake for a longer period, as this proceeding would certainly prove injurious.

We may frequently succeed in curing this affection in a very short time, within twenty-four or forty-eight hours. Our chief endeavor should be to wean the patient of the baneful habit of intemperance, which is not an easy task. We must keep these patients at least during one year under very strict surveillance, and firmly deny them the use of all intoxicating liquors, and totally disregard their representations and entreaties. Exhortations, earnest representations, and reproaches, seldom suffice to keep drunkards from their unmanly, immoral propensities; they will frequently entreat us, on their knees, to indulge them in their habit for once, promising at the same time to abstain during the remainder of their lives from drinking; but be not misled by these idle phrases; for if we listen to them once—but once accede to their wishes—they will become more impetuous in their requests, and where prayers are of no avail, they will resort to threats. We must remain firm and unmoved, nor should we rest until we have totally crushed their vicious propensity. It is for this purpose necessary that we should have the drunkard in our command, or we shall not succeed. He must never have money at his disposal, or be trusted with the management of his own affairs;

for he will sell and pawn every thing to gratify the ruling passion.

Hydrophobia.

Priessnitz is said to have cured this disease in dogs. The animals are tied fast, and then doused repeatedly. The paroxysms are at first increased. At length the symptoms abate. Perspiration is induced by coverings.

Burns.

Apply constantly to the part cold wet cloths, without a dry one over them. When of sufficient severity to produce general disturbance of the system, there must also be general as well as local treatment.

Fractures.

Either before or after the reduction of the fracture, there is no better means of keeping down inflammation than cold water. A cold wet bandage should be applied to the part; this should remain an hour, and then a larger bandage must be applied to carry the inflammation away from the part. For instance, if the leg be wounded, the bandage should be carried up the whole thigh.

Sprains, or Stiffness of the Joints.

If a sprain injures, or any nail runs into the foot, apply foot-baths (tepid) thrice a day for half an hour or more each time. The sprain should be well rubbed. The water in the bath must come up a little above the part affected; a cold bandage should be worn day and night. If the wrist

is sprained or the hand wounded, elbow-baths should be resorted to, and the arm bandaged up to the shoulder : these bandages should always extend far beyond the part affected.

Tooth-ache.

There is nothing more simple, and at the same time more efficacious, than Priessnitz's treatment for tooth-ache. Two basins are filled with water, one of which is cold, the other tepid ; the mouth should be filled with the tepid water, and held in the mouth till it begins to be warm, then change it ; during this, the hands should be dipped constantly in cold water, and with them violently rub the whole of the face, cheeks, and behind the ears ; this operation should be continued till the pain ceases. It is also good to rub the gums even until they bleed. It is said never to resist this treatment at Graefenberg. Sometimes it is necessary to add cold foot-baths, the water not higher than the ancles.

Ear-ache.

This disease requires the same treatment as inflammation of the eyes ; that is to say, the ears must be bandaged, and linen well wetted with cold water should be introduced into the ear ; and a similar bandage worn around the head. In cases of obstinacy in the disease, the process of perspiring, and the cold water, are indispensable.

Bleeding at the Nose.

To stop bleeding of the nose, the throat and nape of the neck should be washed with cold water, and a cold wet linen bandage applied to the stomach ; cold foot-baths should be taken ; if necessary, take a sitz-bath, and wash

the body with cold water. It is also frequently stopped by placing a cold wet bandage upon the genitals.

Hemorrhage, Uterine.

In hemorrhages of the matrix apply cold bandages to the abdomen, and if these are not sufficient, cold water must be injected into the matrix ; to these means must be added an abundant drinking of cold water. This treatment requires the advice of a skilful practitioner.

Accouchment.

Experience has demonstrated the utility of cold ablutions, and exercise in the plain air, to females who are *enceinte* ; to this ought to be added simple diet, and the drinking plentifully of cold water : wine, coffee, and liquors should be avoided. Madame Priessnitz is accustomed, during the last six weeks previous to her accouchment, to take a cold bath every day. To this she owes the happiness of a prompt and easy accouchment, and her speedy establishment in health.

Irregular Menstruation.

Order is established in this important function, by slight perspirations, general cold ablutions, sitz-baths, and foot-baths, much exercise, and plentifully drinking cold water. Instances of cures of this complaint at Graefenberg are numerous.

Gout, Rheumatism, and Tic Doloroux.

Munde gives us the following as the treatment for these diseases :

Priessnitz's method of cure unites all the advantages of the cure by warm water, without its inconveniences; like the latter, it attacks and raises the vitiated juices, and expels them from the system with advantage; it fortifies the system in hardening it, and by re-establishing the digestive functions; whilst warm water ruins them completely. In fact, the cure of Graefenberg requires only constancy and perseverance, according to the standing of the disease.

Gouty subjects, who could find no relief whatever in medicine, were those that Priessnitz cured the quickest, however violent the disease. I have heard him say that eight or ten weeks were sufficient to cure them radically; the reason of which undoubtedly is the good state of the digestive organs, unimpaired by medicine, and, consequently, a less quantity of vitiated juices.

Whatever may be the reason, it is very certain that the maintenance of the digestive organs in their normal state is that which is most important to health. It is not with emetics and purgatives, it is not with mercury, or mineral waters, of which they are so prodigal, that doctors preserve the integrity of the digestive organs; they know this, and shut their eyes to the evil consequences of this debilitating system.

The cure of gout requires the application of the whole treatment. It should be felt on the entire system before it is particularly applied to the parts afflicted. The first object to obtain is by the sudorific process and baths to relieve that excessive irritability of the skin, which is the source of so much pain; adding to this, exercise in the open air. By degrees gouty subjects should leave off flannel next to the

skin, which they do in summer on the fifth day of the treatment, in winter a little later, and always without the slightest inconvenience. When the invalid is not too weak, he may go immediately to the douche, which he must let fall equally upon all parts of his body ; but this must be used only for a few minutes ; it is only when he is enabled to sustain it easily, that he should expose the suffering parts to it, to put the humors which are there established in motion.

The process of strong perspiration is of the greatest importance in cases of gout, particularly for those who have tried other remedies. Whilst enveloped in a woollen blanket, the patient ought to apply bandages or umschlags to the diseased parts, and to renew them according to the process indicated : few pass more than five or six weeks under the influence of this treatment without having a crisis ; I mean to say, without the sufferer being charged with eruptions or boils.

At the appearance of the crisis, it is necessary for the douche to be moderated, in order not to augment the crisis ; the process of perspiring ought to be mitigated, and the patient should remain a shorter period in the bath. It is often necessary to take only sitz-baths and foot-baths, particularly those subject to congestion of blood to the head, or when the gout is subject to that part. When the crisis is intense, it is sufficient to be wrapped in a wet sheet and use cold ablutions : on coming out of the sheet, it is better to avoid the use of the bath.

The treatment thus mitigated is continued, excepting where irritation approaches to danger, in which case it should

be suspended, excepting the general fomentation, or bandages, which should be renewed day and night, and sitz-baths. These are sufficient to re-establish calm.

I should not forget to warn the gouty subjects, that they should, during the treatment, drink a great deal of cold water. This liquid, taken abundantly, attenuates the humors, and favors perspiration; to which should be added as much exercise as can be taken, either by riding on horse-back, or walking. Then sawing a block of wood, or, as a case of necessity, riding in a carriage must supply its place. But if obliged to stay at home, the quantity of cold water drank should not be lessened. Further, I know an instance of gout in the head being cured by merely drinking water, and making ablutions of cold water, although the invalid was incapable of leaving his room.

There are a great many gouty people whose gout is not merely local, but is manifest in the whole of the body. When it exists in the upper regions, foot-baths are persisted in, to draw it to the inferior extremities, not forgetting to bandage the diseased parts, in order to disturb and put it in movement; these baths should be taken once or twice a day, for at least half an hour each time.

It is a common case to see gout affect the lower extremities; the feet are often the seat of the disease: cold foot-baths are a quick and powerful remedy. The water for the foot-bath should not be deeper than up to the ankles. The sister of a friend of mine, residing near Toplitz, suffered a long time, pain in the foot and leg; she tried many remedies, besides the baths of Toplitz, without the slightest benefit; it even increased the disease to that degree that she could not walk. A violent paroxysm came on, during which she

imagined the use of cold water might do her good : the first foot-bath that she took enabled her to walk : encouraged by this success she renewed it, and was in a few days completely rid of the complaint. I saw her two years after, and heard her say she had not the slightest remains of her disease.

When the gout is fixed in the hips, or any of the lower extremities, it is called sciatic gout. Sitz-baths being so efficacious, one should not be afraid on finding that they augment pain ; this betokens a movement given to the arthritic humors. This is still more increased by applying the douche to the suffering parts ; the humor at last descends to the feet, where it has been drawn by the foot-baths, which should be alternately taken with sitz-baths.

It is necessary to apply the douche strongly to the part affected by gout, and to continually apply wet bandages, as well as to rub it very hard when in the cold bath ; also, if practicable, with the dry hand, when wrapped up in the blanket to perspire. These frictions move and displace the morbid humors. The head is the only part which should not be subjected to the douche ; it is sufficient to apply bandages to it, particularly on the temples, where the pain is more acutely felt, and to take daily foot and sitz-baths, in order to attract the humors to the lower extremities. In this case the sudorific process should be shortened.

We will now show the treatment of tic-doloureux, which is itself a kind of gout ; we have already said that the douche should not be applied to the head. The first thing is to water the whole of the body with cold water ; if this is insufficient, a sitz-bath should be taken for two hours, a great deal of water drank, and from the sitz-bath, immedi-

ately to the foot-bath. This treatment is often sufficient to put an end to the paroxysm ; if, however, it does not cease, place a cold wet bandage round the head, and take exercise in a place where the temperature is cold. The pain got rid of, the patient should keep quiet for some days, and abstain from perspiration ; during the days of relaxation, a sitz-bath must be taken one day, and a foot-bath the next, and wet bandages frequently renewed to the afflicted parts, not forgetting to drink plenty of cold water ; it is necessary to take exercise in the open air after each bath. This is the way I treated the dreadful nervous tic which had almost reduced me to despair, and at last triumphed. I must confess that I made a firm resolution to execute all the requisite operations during the advancement of the disease. But what is not a man capable of undergoing who wishes to live ? Those who are attacked by gout, should have immediate resource to ablutions and sitz-baths ; the paroxysm is thus always shortened, and sometimes stopped on its first appearance. This treatment is so far advantageous, that the day after, or even the same day, the patient can be exposed to the open air, without running the risk of a relapse. This is an advantage which belongs to no other treatment.

Between the paroxysms, persons afflicted with arthritic pains in the head, would do well to take head-baths, to put the gouty humor in movement, and disengage the head from it, which often happens in the shape of an abscess in the ear. Whatever pains these abscesses may cause, the head-baths and cold fomentations or bandages on the part affected, should not be neglected. Their opening causes

great relief; if they do not open, it is because the humor has been expelled by perspiration.

Head-baths should only be employed when the treatment has already affected the whole system, in order to avoid too great a reaction in the superior organs. As to the pain caused by the formation of the abscess, which is determined by the head-bath, it differs essentially from that characterizing the tic nervous; it has much less acuteness, although it troubles the sleep for some nights; it is more pungent than destroying, fatigues the teeth and temples, and is continually drawing towards the ear.

I shall not end this chapter on gout in the head without warning the invalid, that a strict observance of the regimen at Graefenberg is for him one of the most important duties; any working of the mind prejudicial to the body, so shaken by the sudorific process; the exercise of the mind would be contributed to the general state of irritation. I have already said this process should be mitigated; I shall add, that it were better to perspire every other day. But how, it will be exclaimed, support a life of such dressing and undressing? I answer by asking, whether any other treatment is less tedious and more efficacious? There is one source from whence we may take courage; it is in the sentence pronounced by medical schools, who have declared gout an incurable disease.

All that I have said about gout and its treatment, equally applies to rheumatism, which bears such a great resemblance to it, that it is supposed to take the same origin, and often one is confounded with the other, therefore is the treatment the same; which consists in abundant perspiration, the douche, and bandages on the parts affected.

Syphilis.

Whatever may be the nature of the disease, whether gonorrhœa, ulcers, chancres, buboes, &c.; the treatment is the same; sweating, bathing, douching, fomenting bandages, and drinking water. Gonorrhœa, with a discharge, requires the constant application of a cold fomenting bandage round the part, and injection of cold water many times a day; to this must be added the sitz-bath for an hour or two, repeated twice a day. Great attention should be paid to diet. All aliments ought to be cold.

Dropsy.

The cure of dropsy can only be effected under certain conditions. Hydropathy, even, cannot perform a cure in cases complicated with organic lesions, general debility, total disorganization, and where absorption is completely arrested.

In treating this disease, our attention must be directed to the production of a crisis, by copious sweating, or copious discharge of urine. The skin is dry, whether the disease be complicated with fever or not. Before enveloping the patient in the wet sheets, the parts which are swelled, or the whole body, if the dropsy be general, should be well rubbed for several minutes with horse-hair gloves. As soon as perspiration appears, which will not be at a very early period of the treatment, we must offer the patient cold water to drink frequently, but in small doses, only as much, in fact, as suffices to promote perspiration. The duration of sweating must be determined by the state of the constitution; and the patient may be left to perspire as long as

he can bear the process without too much inconvenience, for the more copious the perspiration the sooner will recovery take place, if at all.

The Gripes, Catarrh, and Cold in the Head.

To cure these complaints, it is sufficient to perspire in a wet sheet, and then to wash the body with water of the temperature of 60 degrees of Fahrenheit, to assist perspiration. Much cold water should be drank whilst in bed. The gripes sometimes produce great heat in the head; this is appeased by means of sitz-baths, and cold wet bandages upon the head.

CHAPTER VI.

Facts from Dr. Currie.

It is generally well known to the medical world, and to many others, that the very celebrated Dr. Currie, of Liverpool, Eng., used water much in cases of fevers and other diseases, and with astonishing success. Since his time, his modes of treatment have been seldom resorted to. It is acknowledged on all hands that his success was great. The following remarks and cases are taken from his very able work, "On the Effects of Water, Cold and Warm, as a Remedy in Fevers and other Diseases, &c." He says in an introductory letter to Sir Joseph Banks:

"Ablution with cold water in fever had been so long em-

ployed at the hospital here, and in private practice, by my friends and colleagues Dr. Brandreth and Dr. Gerard, as well as myself, that it was become general in Liverpool, and common in the county of Lancaster. So long ago as the year 1791, a general statement by Dr. Brandreth of its advantages had been published by Dr. Duncan, in the Medical Commentaries of that year. It had also been noticed by me in the Philosophical Transactions for 1792, and I had repeatedly mentioned it in private correspondence; it had often been recommended to the surgeons of African ships in those examinations required by the legislature, and which are chiefly made by the physicians and surgeons of our hospital. On different occasions likewise I had not only explained, but exhibited the practice, to practitioners from a distance, and particularly to one or two going to the West Indies. A method of treatment so bold and so contrary to common prejudices, made however, as it appears, slow progress. The mode of operation of our remedy has been misapprehended; the proper period for using it has not been understood; and on some occasions having been resorted to improperly, the consequences have brought it into disrepute. Reflecting on these circumstances, and exposed by situation to the reiterated sounds of death from the Western world, my decision was speedily made: I resolved no longer to delay an account of our treatment of fever."

He commences by giving the following narrative of Dr. Wright:

"In the London Medical Journal for the year 1786, Dr. William Wright, formerly of the Island of Jamaica, gave an account of the successful treatment of some cases of fever by the ablution of the patient with cold water.

“On the 1st of August, 1777, (says Dr. Wright,) I embarked in a ship bound to Liverpool, and sailed the same evening from Montego Bay. The master told me he had hired several sailors on the same day we took our departure ; one of whom had been at sick quarters on shore, and was now but in a convalescent state. On the 23d of August we were in the latitude of Bermudas, and had had a very heavy gale of wind for three days, when the above-mentioned man relapsed, and had a fever, with symptoms of the greatest malignity. I attended this person often, but could not prevail with him to be removed from a dark and confined situation, to a more airy and convenient part of the ship ; and as he refused medicines, and even food, he died on the eighth day of his illness.

“By my attention to the sick man I caught the contagion, and began to be indisposed on the 5th of September, and the following is a narrative of my case, extracted from notes daily marked down. I had been many years in Jamaica, but, except being somewhat relaxed by the climate, and fatigue of business, I ailed nothing when I embarked. This circumstance, however, might perhaps dispose me more readily to receive the infection.

“Sept. 5th, 6th, 7th. Small rigors now and then—a preternatural heat of the skin—a dull pain in the forehead—the pulse small and quick—a loss of appetite, but no sickness at stomach—the tongue white and slimy—little or no thirst—the belly regular—the urine pale, and rather scanty—in the night restless, with starting and delirium.

“Sept. 8th. Every symptom aggravated, with pains in the loins and lower limbs, and stiffness in the thighs and hams.

"I took a gentle vomit in the second day of this illness, and next morning a decoction of tamarinds; at bed-time, an opiate, joined with antimonial wine, but this did not procure sleep, or open the pores of the skin. No inflammatory symptoms being present, a drachm of Peruvian bark was taken every hour for six hours successively, and now and then a glass of Port wine, but with no apparent benefit. When upon deck, my pains were greatly mitigated, and the colder the air the better. This circumstance, and the failure of every means I had tried, encouraged me to put in practice on myself what I had often wished to try on others, in fevers similar to my own.

"Sept. 9th. Having given the necessary directions, about three o'clock in the afternoon, I stripped off all my clothes, and threw a sea-cloak loosely about me till I got upon the deck, when the cloak also was laid aside. Three buckets full of salt water were then thrown at once on me; the shock was great, but I felt immediate relief. The head-ache and other pains instantly abated, and a fine glow and diaphoresis succeeded. Towards evening, however, the febrile symptoms threatened a return, and I had again recourse to the same method as before, with the same good effect. I now took food with an appetite, and for the first time had a sound night's rest.

"Sept. 10th. No fever, but a little uneasiness in the hams and thighs—used the cold bath twice.

"Sept. 11th. Every symptom vanished, but to prevent a relapse, I used the cold bath twice.

"Mr. Thomas Kirk, a young gentleman, passenger in the same ship, fell sick of a fever on the 9th of August. His symptoms were nearly similar to mine, and having taken some

medicines without experiencing relief, he was desirous of trying the cold bath, which, with my approbation, he did on the 11th and 12th of September, and by this method was happily restored to health."

The Doctor proceeds :

"On the 9th of Dec. 1787, a contagious fever made its appearance in the Liverpool Infirmary. For some time previously the weather had been extremely cold, and the discipline of the house, owing to causes which it is unnecessary to mention, had been much relaxed. The intensity of the cold prevented the necessary degree of ventilation, and the regulations for the preservation of cleanliness had been in some measure neglected. These circumstances operated particularly on one of the wards of the eastern wing, employed as a lock-hospital for females, where the contagion first appeared. The fever spread rapidly, and before its progress could be arrested, sixteen persons were affected, of which two died. Of these sixteen, eight were under my care. On this occasion I used for the first time the affusion of cold water, in the manner described by Dr. Wright. It was first tried in two cases only, the one in the second, the other in the fourth day of fever. The effects corresponded exactly with those mentioned to have occurred by him in his own case ; and thus encouraged, the remedy was employed in five other cases. It was repeated daily, and of these seven patients, the whole recovered. In the eighth case, the aspersion of cold water seemed too hazardous a practice, and it was not employed. The strength of the patient was much impaired by lues, and at the time of catching the contagion, she labored under ptyalism. I was not then aware that this last circumstance formed no objection

against the cold affusion, and, in a situation so critical, it was thought imprudent to use it. The usual remedies were directed for this patient, particularly bark, wine and opium, but unsuccessfully ; she died on the sixteenth day of her disease.

“ From this time forth, I have constantly wished to employ the affusion of cold water in every case of the low contagious fever, in which the strength was not already much exhausted ; and I have preserved a register of a hundred and fifty-three cases, in which the cure was chiefly trusted to this remedy.”

Small Pox.

The singular degree of success, that on the whole attended the affusion of cold water in typhus, encouraged a trial of this remedy in some other febrile diseases. Of these the small pox seemed more particularly to invite its use. The great advantage that is experienced in this disease by the admission of cool air, seemed to point out the external use of cold water, which being a more powerful application, might be more particularly adapted to the more malignant forms of small pox. The result corresponded entirely with my expectation. Of a number of cases in which I witnessed the happy effects of the affusion of cold water in small pox, I shall give the following only :

“ In the autumn of 1794, J. J., an American gentleman in the 24th year of his age, and immediately on his landing in Liverpool, was inoculated under my care : the prevalence of the small pox rendering it imprudent to wait till the usual preparations could be gone through, or indeed till the fatigues of the voyage could be recovered. He sickened

ed on the seventh day, and the eruptive fever was very considerable. He had a rapid and feeble pulse, a fœtid breath, with pain in the head, back and loins. His heat rose in a few hours to 107° , and his pulse beat 119 times in the minute. I encouraged him to drink largely of cold water and lemonade, and threw three gallons of cold brine over him. He was in a high degree refreshed by it. The eruptive fever abated in every respect—an incipient delirium subsided, the pulse became slower, the heat was reduced, and tranquil sleep followed. In the course of twenty-four hours the affusion was repeated three or four different times at his own desire; a general direction having been given him to call for it as often as the symptoms of fever returned. The eruption, though more numerous than is usual from inoculation, was of a favorable kind. There was little or no secondary fever, and he recovered rapidly.”

Case of Insanity.

In this case various remedies had been tried for nearly two months without any good effect. He says :

“Perplexed with these extremes, and keeping in mind the success of the cold bath in convulsive diseases, I ordered it to be tried on the present occasion. The insanity returning with great violence on the 21st, he was thrown headlong into the cold bath. He came out calm, and nearly rational, and this interval of reason continued for twenty-four hours. The same practice was directed to be repeated, as often as the state of insanity recurred.

“The following is the report of the 30th: ‘The direction has been followed, and on the morning of the 23d, he was again thrown into the cold bath in the height of

his fury, as before. As he came out, he was thrown in again, and this was repeated five different times, till he could not leave the bath without assistance. He became perfectly calm and rational in the bath, and has remained so ever since.”

Case of Fits.

“John Westmore, aged 22, was admitted into the Infirmary on the 11th of October, 1792. In consequence of a fright, he had been seized with fits two months before, which now recurred several times every day, of various duration, from two minutes to an hour. During these his consciousness was wholly abolished. These fits occurred without warning, and were peculiar in their appearance. At first the muscles of one side were strongly retracted, then those of the other alternately; and then the muscles of both sides acting together, the whole trunk of the body was drawn upwards to the head; this action resembling very exactly that of the victim of the law, suspended in the agonies of death. His faculties of mind did not seem as yet impaired, nor the animal functions much disturbed. No medicines were ordered for this patient, but a bucket-full of cold water was directed to be thrown over him, the instant of the accession of the fit. Some circumstances prevented this being done for a few days, during which he went into the cold bath daily, when the fits were off him, and with seeming advantage; the number of paroxysms being reduced from eight or ten in the twenty-four hours, to two or three. At length he was thrown into the cold bath on the instant of the accession of one of his fits, which was speedily terminated, and from this time forth he

had no return for fourteen days, when he was discharged as cured. Westmore continued free of complaint till the beginning of February following, when his fits returned. He was re-admitted on the 24th of that month, and at that time his fits recurred six or seven times in the day. He was again directed to use the cold bath daily—and to have a bucket of water thrown over him on the accession of every fit. By this practice he speedily recovered, and since that time the disease has never returned. He is now, (March 1798,) in perfect health.”

These are a few among the many most remarkable cases given by Dr. CURRIE.

Fatal Cases of Drinking in the Army of Alexander.

In Quintus Curtius, (*lib. vii. cap. 5.*) an account is given of the march of the army of Alexander the Great in pursuit of Bessus, through the country of the Sogdiani, which is represented as destitute of water, sterile, and covered with scorching sands. The intolerable heat, fatigue, and thirst of the soldiers in their march through this burning desert, are described with all the florid eloquence of the historian. At length, fainting under their toils, they reached the banks of the river Oxus, where, by indulging in large draughts of the stream, Alexander lost a greater number of his troops than in any of his battles.

CHAPTER VII.

THE following article is taken, by permission, from the very able work of Dr. S. GRAHAM, "On the Science of Human Life," the best extant on that subject.

Stimulants.

The human body, we have seen, is composed of the common matter of the world, converted into animal arrangement and structure by vital forces, which overcome and subdue the more primitive affinities of inorganic matter. We have seen, also, that the matter of our bodies is not permanent in its organic arrangement, but particle by particle is continually escaping from the vital structure, and returning to inorganic forms: and hence the necessity for constant supplies of new matter to replace that which is eliminated from the vital domain. Our bodies, therefore, consist of an assemblage of organs, so constructed and adjusted as to form of the whole, a single system, and each of these organs performs its particular function—not for itself *alone*, but for the whole—as a constituent part of the one system, and the associated functions of all the organs, constitute the single vital economy of the system, by which the body is nourished and sustained in all its physiological properties and powers. The organic wants of our bodies, and, consequently, the purposes for which their organs were constructed, require vital power and action in the organs: and vital action requires that the living organs should be susceptible of being excited by appropriate stimuli;—and

hence, as we have seen, every organ in which vital action is required, is furnished with tissues whose vital properties endow it with the necessary powers for the performance of its function : and thus every acting organ in the system is constituted with vital sensibilities that fit it to be excited by those substances which it was constructed to receive and act upon. A certain degree of action, in the several organs, is therefore necessary for the sustenance of the body and the maintenance of life : and such is the general sympathy of every organ with each other in the whole assemblage, and all with each, that no one organ can greatly fall short, nor greatly exceed its proper rate and tone of action, without in some measure involving the whole system, and causing a correspondent disturbance in the general economy of the vital domain. And although, as we have seen, the animal centre of perception has, in the ordinary state of the system, no cognizance of the particular actions and conditions of the several organs in the domain of organic life, yet the cerebro-spinal system, sympathizing directly and powerfully with that domain, in all its affections and conditions, the animal is conscious of satisfaction and enjoyment, or depression and disquietude, according as the general tone of the organic economy comes up to, or falls short of, the usual healthy standard. And consequently, as we have seen, when the system is in perfect health, and each organ is healthfully acting under the influence of its appropriate stimulus, the physiological wants of the organic economy are satisfied, a grateful communion of sympathy pervades the whole system, and mental tranquillity or perhaps delight is the natural result. If by any means to which the system is adapted and accustomed, the stimula-

tion is somewhat increased, and the general tone elevated, the sympathetic mental consciousness or feeling amounts to exhilaration, and perhaps high enjoyment ; and on the other hand, if by any means the general tone be depressed, the sympathetic mental consciousness or feeling is commensurately unpleasant and distressing, and the individual feels a corresponding degree of dissatisfaction and disquietude, which is promptly removed, and satisfaction afforded by the requisite degree of stimulation. Hence, it may be said that there is in man and all animals **A NATURAL LOVE OF STIMULATION.**

But the vital sensibilities by which our organs are rendered susceptible to the action of appropriate stimuli, also render them susceptible to the action of other and improper stimuli. In the natural constitution of man, all the animal and organic sensibilities are established with precise and determinate relations to the physiological interests of the body, and to the nature and qualities of the substances designed to act on the living tissues of the organs. Thus, as we have seen, the organic sensibilities of the stomach, not only render that organ capable of being excited to action by appropriate stimuli ; but they render it capable of being excited to even the most powerful and violent action, by improper and offending, and pernicious substances.

In the perfectly healthy and undepraved state of the stomach, its sensibilities enable it, with the nicest and most discriminating accuracy, to perceive and appreciate both the *quality of the stimulus* and the *degree of stimulation* ; but the habitual introduction of improper substances into the gastric cavity, so depraves its sensibilities that it often *wholly loses its discriminating power to perceive the quality*

of the stimulus, and only retains the ability to appreciate the degree of stimulation. By the same means also, its delicate susceptibility to the action of its natural and appropriate stimuli, is so impaired, that the latter fail to excite sufficient action in the organ to keep up its proper tone, and to satisfy the demands of the organic economy ; and the consequence is, that a physiological depression of the organ results, which involves the whole domain of organic life ; and the sympathy of the cerebro-spinal system with this depression, becomes a mental consciousness of dissatisfaction, disquietude and distress, which must either be borne till the vital economy recovers the stomach from its depravity and restores it to its healthy susceptibility, or be removed by the use of the stimulus by which the depravity has been produced, or by some other stimulus equally powerful. Thus, while the stomach is healthy and undepraved, the simplest and plainest food excites it to the vigorous performance of its function ; and there is no want of tone in the organ, and no physiological dissatisfaction is felt in the system, and no mental disquietude results. If, in this state of things, a sufficient quantity of tobacco or any other poison is introduced into the gastric cavity to endanger life very imminently, its poisonous property is instantly perceived, and the sympathetic alarm is promptly given to the whole domain of organic life, and, as we have seen, the most violent vital reaction takes place ; but if a very small portion of tobacco be introduced at first,—not enough to endanger life, nor greatly to disturb the function of the stomach, very little or no alarm will be given to the organic domain at large, but the stomach will, as it were, endeavor to keep its little troubles to itself, and by its own special economy,

protect itself and the vital domain as far as possible, from its deleterious qualities. Yet always, and inevitably, just in proportion to the pernicious quality and energy of the tobacco, the discriminating sensibility of the stomach is impaired; and the organ is commensurately less susceptible to the action of plain and simple aliment, and less nice to perceive the poisonous properties of the tobacco.

If the effect is small, and no more tobacco is introduced into the gastric cavity, the vital economy will soon recover the organ from the injury and restore it to its healthy sensibility. But if, before this is effected, a little larger quantity of tobacco is taken, the stomach having less power to perceive its poisonous properties, will give no more alarm than it did before, with the less quantity;—and if this course be followed up for a short time, gradually increasing the quantity of the tobacco, the discriminating sensibility of the stomach will be so much depraved that it will no longer be able to perceive the quality of the stimulus and only able to appreciate the degree of stimulation:—and this discriminating sensibility of the stomach being destroyed, there remains no other instinctive means by which the poisonous character of the tobacco can be detected in the gastric cavity. If now the tobacco be entirely withheld, and the depraved stomach be left to its own resources and the action of its natural and appropriate stimuli, these will wholly fail to keep up the tone of the organ, and the necessary consequences will be a physiological depression corresponding with the depth and extent of the depravity, and involving the whole domain of organic life, and sympathetically producing a proportionate degree of mental disquiet and distress.

But the mind cannot be conscious that the tobacco has produced its distress, nor that it is suffering from the want of physiological tone in the stomach, or any other organ. It is only conscious of its own distress, which it naturally attributes to some purely mental or moral cause acting directly on itself. The depraved stomach, however, craves its accustomed stimulus, with a vehemence equal to the depth of its depravity and the degree of its physiological depression; and if the requisite quantity of tobacco be introduced into it, immediately its tone is restored, the physiological depression removed, and the mental disquietude dispelled. But the mind cannot be conscious that it derives its relief from the action of a poisonous substance on the stomach, nor that it is in any measure affected by the condition of any bodily organ. The stomach no longer perceives the poisonous quality of the tobacco:—it only appreciates the degree of stimulation which the tobacco produces, and *in that degree of stimulation*, the stomach blindly rejoices, and the whole organic domain sympathetically rejoices with it; and in this general physiological exhilaration the mind rejoices also, though utterly unconscious of the source of its delight. But, the mind, not from its consciousness, but from the exercise of its reasoning powers, will soon discover that its disquietude follows the abstraction of the tobacco, and its satisfaction or delight follows the use of it; and, judging, not from any knowledge of the physiological powers and laws of the body, and of the properties of the tobacco, but wholly from its own consciousness of disquietude when the tobacco is withheld, and satisfaction when it is used, it naturally and necessarily comes to the conclusion, that the tobacco is not only innoxious but high-

ly salutary : and thus man is brought to the full belief that tobacco is greatly conducive to his health and comfort : and feels himself fully confirmed in this opinion by the very best and most infallible means of knowledge—*his own experience*.

This same reasoning strictly applies to the physiological and psychological effect of all other pure stimulants on the human system. In every case, by so much as they increase vital action, they cause the vital expenditure to be in excess of the immediate vital replenishment ; and the necessary consequence is a commensurate physiological depression, or “indirect debility,” as it is called in medical works. In every case also, in proportion to the deleteriousness of the substance used, the vital sensibility of the organ on which it acts is impaired and depraved : and the organ loses the power to perceive the quality of the stimulus, and only retains the ability to appreciate the degree of stimulation. Moreover, in exact proportion as any organ becomes depraved by any particular kind of stimulus, it loses its susceptibility to the stimulating properties of other substances, and becomes dependent on that particular kind, for a satisfactory degree of stimulation, and is depressed and dissatisfied if that accustomed stimulus is withheld ; and in its depression, involves, to some extent, as we have seen, all the physiological and psychological powers of the system. This constitutes the power of such acquired appetites, and renders it exceedingly difficult to subdue and remove them. And always, when the system has become habituated to any stimulating substance, the depth of the depravity caused by its use, the depression and dissatisfaction experienced if it is withheld, and the difficulty of subduing the appetite for

it, are in proportion to the deleteriousness of the substance, and the natural and instinctive antipathy of the pure and healthy vital powers, to its poisonous properties.

But as the discriminating sensibility by which any organ is enabled to perceive the poisonous properties of substances which act upon it, are soon destroyed by the habitual use of such substances, and as the degree of stimulation is all that is appreciated by the general organic economy, and all that affects the mental consciousness, so the physiological satisfaction and the mental enjoyment and delight always correspond with *the degree of stimulation*, without any regard to the *quality* of the stimulus. And as the most deleterious substances cause the deepest depravity of the organs on which they act, and as their stimulation is attended with the greatest expenditure of the vital powers, and is consequently followed by the greatest degree of physiological depression and mental disquietude, so the depraved appetite, formed by the use of such substances, is most importunate and despotic, and most exclusive in its demand for the particular kind of substance by which it was formed, and that particular kind of substance becomes most exclusively essential to the production of the requisite degree of stimulation. And hence, in proportion to the deleteriousness of any substance on which the system has become dependent for stimulation, the mind, judging from its own consciousness, regards that substance as essential to its own comfort and enjoyment, and to the welfare of the body: and as such substances, when the system is deeply depraved by them, are always used in gratification of the most importunate appetite, and as their stimulation removes the most distressing physiological depression, caused by their own

depraving and exhausting influence, so their stimulation is regarded as the most grateful and delightful of all the enjoyments of life, and the substances themselves often become of more importance in the estimation of the mind, than any thing else affecting human existence.

The explanation of these physiological principles fully discloses to us the philosophy of the universal and deeply melancholy fact of man's propensity to indulge excessively in the use of stimulating and intoxicating substances. By over-exertion of the body, or over-action of the mind, or by dietetic errors in the quantity or quality of food, or by some other cause, the nice balance of the physiological actions of the body is disturbed, a corresponding physiological depression is produced, and a commensurate disquietude is felt. If in this state of things, man fully understood himself, and were wise, he would patiently bear the light and momentary disquietude, till the renovating powers of his vital economy restored the balance of action and thus removed his distress. But unhappily, man knows not himself!—and—what is yet more his fault than his misfortune—he seeks not, with proper diligence and in a proper manner, to know himself. And in his ignorance, if, by any means, he experiences a physiological depression and consequent disquietude, he is at once impatient to be relieved, and eagerly avails himself of any thing that promises the most speedy alleviation. Purely by accident at first, he discovers that certain substances, if taken into his stomach, exhilarate him and remove his depression; but upon what principle he has no idea; nor does he give himself any care to ascertain. It is enough for him to know that, when he is fatigued or in any manner depressed, if he takes the substances in suitable

quantities, he is relieved and perhaps made happy. The olfactory and gustatory and organic sensibilities alone, can perceive and appreciate the qualities of the substances, with reference to the physiological interests of the body; and these, we have seen, are soon depraved by the action of those substances, and the system only retains the ability to appreciate the degree of stimulation; and that is the very thing that affords the satisfaction and delight; while at the same time its effects upon the system destroy the physiological and mental ability of the individual to be satisfied with the action of the natural and appropriate stimuli, and cause a more and more frequent and distressing physiological depression and consequent demand for stimulation. But man in his ignorance, and in the blindness of his sensuality, knows nothing of the physiological philosophy of all this. He neither knows nor suspects that the frequency and depth of his disquietude are caused, in any measure, by the substances which he uses to remove that disquietude. He only knows from his *experience*, whose integrity he can no more doubt than he can doubt his existence, that whenever he feels depressed and disquieted, the use of those substances affords him relief and satisfaction and enjoyment; and therefore, he fully believes them to be salutary cordials, which do him good, and only good.

Thus man, in his blindness and delusion, goes on, from the occasional, to the habitual use of his stimulants, till he brings his system into such a state of general physiological depravity, and renders it so subject to physiological depression, that its natural and appropriate stimuli no longer serve to keep up its tone, in any respect, nor to satisfy its demands for stimulation: and the result is, that nothing simple

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and unexciting in his food or drink satisfies his depraved appetite and morbid craving for stimulation : and, therefore, he blindly multiplies the kinds of his stimulants and increases the quantity, with the increasing depravity and demand of his system, without knowing or suspecting the consequences, till every thing in his diet, every thing he swallows, is, either of its own nature, or by the addition of other substances, pungent and exciting ; and this inevitably soon brings the system into a condition in which its exhaustion is so rapid, and its consequent depression so deep and distressing, that it can no longer be satisfied with the mere dietetic use of stimulants, but must be kept continually under their influence ; and as the more freely such substances are used, the more rapidly and powerfully they exhaust and destroy the susceptibilities of the system, even to their own influence. So the infatuated self-destroyer is driven on to the use of more and more powerful and pernicious substances, till he exhausts the resources of nature, and of human ingenuity, in making himself a miserable, and yet utterly deluded drunkard and degraded sot ! And from the beginning to the end of this career of self-destruction, man is compelled along his course by a necessity which he voluntarily generates as he proceeds ; and at every step he is ready, in the full sincerity of his soul, to swear by all in earth and heaven, that his own *experience*, which is the most infallible criterion of truth that man can have, fully demonstrates the correctness of his habits, and proves not only that his stimulants are innoxious, but that they are salutary and necessary for his comfort, and for the continuance of his life.

There is therefore, in man, a natural aptitude and power-

ful tendency to become a drunkard, and to destroy himself by the use of stimulating and intoxicating substances. Hence, in all periods of time and all portions of the world, it has been universally true of the human species, that the means of stimulation and intoxication, have been among the first discoveries and inventions of the earliest stages of society : and nearly every tribe and nation have indulged in the use of those means, without suspecting the consequences, till almost universal drunkenness was the result :—and when, by enlarged experience, and by the sagacious observation of the more intelligent and philanthropic members of society, the relation between such excesses and their evil effects has been discovered, the depraved appetite of the body and the delusion of the mind have proved too mighty for the restraints of civil law ; or, at most, the excesses have only been restrained in a very small measure, by the severest exercise of civil power.—Among the bloodiest and most terrible laws to be found in the codes of nearly every nation that has inhabited the earth, are those which in the earliest stages of their civilization were enacted and enforced against excesses in the use of intoxicating substances.—And yet, where such laws have been most sanguinary and most terrible, the nations, after having risen to what is considered the highest state of refinement in civilization, have, mainly through excesses of this kind, declined and perished in general drunkenness.—Ancient Greece and Rome are, in this respect, but striking illustrations of the general history of the human race.—Indeed, all means, both human and divine, have hitherto failed to restrain mankind from excessive indulgence in stimulating and intoxicating substances.—The general diffusion of that

knowledge which leads to self-restraint, has ever been, and from the nature of things, must ever be, the only means which can in any measure reclaim man from this deep and universal depravity and delusion. So fast as the people of any state or nation have become sufficiently intelligent to perceive and understand the consequences of an excessive indulgence in the use of stimulating and intoxicating substances, they have, as a general fact, restrained themselves within narrower and narrower limits of indulgence, in proportion to their intelligence and the truth and extent of their convictions.—But where the depravity is universal, and the appetite for stimulating and intoxicating substances is engrafted, as it were, upon the very constitution, by hereditary influence and perpetual habit, it is a most difficult thing to produce the conviction that such indulgences are incompatible with human happiness, and health and life, and sound morality and true religion.—Hence, even in the most enlightened state or nation upon earth, the people have as yet, only become sufficiently intelligent to understand the relation between the excessive use of the most powerful intoxicating substances and their most violent effects:—and in proportion to the fulness of this conviction, they restrain themselves from actual drunkenness:—but they do not perceive and understand the relation between the use of all intoxicating—all purely stimulating substances, and their immediate and ultimate physiological and pathological effects upon the human body; and therefore, while they, perhaps, restrain themselves entirely from the use of certain intoxicating substances, whose ruinous effects have become too well known to be denied or doubted, they indulge themselves, with little or no restraint, in al-

most every other kind of stimulating and intoxicating substances, whose mischievous effects they have not yet been *forced* to perceive and understand:—and hence, the universal fact, that human beings even in the most enlightened portions of the world, habitually and almost continually indulge in the use of a great variety of stimulating and intoxicating substances, to render their diet gratifying to a depraved appetite and to keep up a satisfactory degree of stimulation in their systems !

All stimulants, I have said, increase the vital action of parts with which they come in contact, and when they are powerful, and the quantity considerable, and the organ or part on which they act, an important one,—such as the stomach—their local effect is sympathetically felt by the whole organic domain, and the whole system is thrown into an increased action, by sympathetic excitement or irritation. Substances that act in this manner, are called *local stimulants*. Others are rapidly taken up by the absorbents, and diffused throughout the body, exciting every part to increased action by their immediate presence. These are called *diffusible stimulants*. But, while the stimulation produced by these different substances, when the system is accustomed to them, is identified in the mental consciousness with that which is produced by the natural and appropriate stimuli, giving a sense of satisfaction and increased vigor and enjoyment, yet the physiological action which they cause is of a very different character. The natural and appropriate stimuli of the system always excite the parts on which they act, to the performance of their function, and the stimulation which they produce increases the functional energy of the organs. But the action caused by those

foreign substances which are used purely for their stimulating effect, is the action of vital resistance, or what is called vital reaction :—a rallying of the vital forces to resist and repel, and expel the offending and disturbing cause. This stimulation therefore, while it lasts, though it increases the feeling of strength, and to some extent the muscular power of voluntary action, yet it never, in any case, increases the functional energy of any of the organs concerned in assimilation and nutrition ; but on the contrary, always diminishes the functional power of those organs, and retards their functions, and deteriorates their functional results. On this important point, medical men have fallen into an exceedingly great error of opinion, which has been the source of incalculable mischief in medical practice and dietetic regimen.

Salt.

Salt has probably been more universally employed as an article of diet, by mankind, from the primitive ages to the present day, than any other pure stimulant, or substance which is used simply for its exciting property. It can hardly be considered remarkable therefore, that at a very early period in the history of the human family, this substance came to be considered as essential to the comfort and the health of man ; nor even that, in later times, the opinion should be very generally entertained by those nations who use salt, that, an entire and protracted abstinence from it would invariably destroy life. But it is somewhat remarkable that scientific men, and particularly those who have given their attention to physiology, chemistry, medi-

cine, &c., have not long before this discovered and disclosed the error of such opinions.

Salt is a mineral substance, and is wholly innutritious and indigestible. If a table spoonful of it be dissolved in half of a pint of water, and introduced into the human stomach, it is immediately perceived by the organic sensibilities of that organ as an offending or disturbing substance :—great irritation is produced :—the vital forces, if not exceedingly impaired, react with energy :—mucous and serous secretions are rapidly increased in the gastric cavity, to protect the mucous membrane from its acrid and irritating qualities ;—much distress is experienced by the individual, and nausea and vomiting generally succeed, as an instinctive means of expelling the offending cause from the vital domain : and, in all cases, considerable portions of it are driven through the pyloric orifice, into the intestines, where great irritation is also produced by it, and it is soon expelled from the bowels, with large quantities of serum, secreted from the blood, to dilute and flood away the irritating substance ; and thus protect the living parts on which it acts, and the vital interests of the system generally, from its pernicious effects. When salt is taken into the stomach in small quantities, with food, the result is somewhat different. If the stomach is perfectly healthy, in all its properties and powers, however small the quantity of salt, it is immediately detected by the undepraved sensibility of the organ, and a vital reaction takes place, corresponding in energy and extensiveness with the quantity and strength of the offending substance, and by the mucous and serous secretions which are promptly produced, the parts are pro-

tected, and the salt is so diluted as to be rendered no longer very dangerous to the delicate vital properties of the tissue on which it may act. It is, therefore, not expelled from the alimentary cavity, by vomiting or purging, but is taken up in a state of solution, by the absorbents of the stomach, and mingled with the blood of the portal veins : not in any case, nor degree, however, to supply the wants of the vital economy, but to be expelled from the vital domain, through the kidneys, lungs, skin and other depurating organs of the system, as a foreign substance. By the long and habitual use of this substance however, the organic sensibilities of the stomach, and of all the other parts of the system, become so much impaired by its qualities, that they no longer make so energetic a resistance to it, as when they are healthy and undepraved, and the salt is gradually permitted to pass more and more freely into the general circulation, and be diffused throughout the whole vital domain, pervading the minute vessels of the glands and other parts, and becoming so permanent a quality of the serum of the blood, as to be regarded by many as an evidence of the necessity for its dietetic use.

The facts in regard to the dietetic use of salt, then, are these : 1. Salt is wholly innutritious ;—it affords no nourishment to any structure or substance of the human body : —2. It is utterly indigestible ;—it enters the body as a mineral substance,—it is absorbed unchanged, as a mineral substance, it goes the rounds of the general circulation as an unassimilated, mineral substance, and is finally, eliminated from the body, through the kidneys, lungs, skin, &c., as an unassimilated, mineral substance :—3. Its acrid quality is offensive to the vital sensibilities of the organs,—always

causing vital reaction or resistance ; and *this vital reaction constitutes the only stimulation ever produced by salt* ; and is, therefore, always attended with a commensurate degree of irritation and vital expenditure, and followed by a correspondent degree of indirect debility and atony : and consequently it always and inevitably tends to produce chronic debility, preternatural irritability and disease :—the stomach, intestines, absorbents, veins, heart, arteries, and all the other organs of the system, are always irritated, exhausted, and debilitated by its presence.—4. It never, in any measure, promotes digestion nor any of the assimilating functions of the system ; on the contrary, it always retards those functions, and is unfavorable to all the vital changes. Where a stomach has been greatly debauched and its energies prostrated, the sudden and entire abstraction of salt and all other stimulants from the food, would undoubtedly leave that organ in a temporary state of atony or depression, which would unfit it for the performance of its function. But it is entirely certain that, in a stomach whose powers and sensibilities are unimpaired and healthy, salt always retards digestion and embarrasses the function, and diminishes the functional powers of the organ : and the impaired stomach receives tone from it, only upon a principle which is always, and inevitably, unfriendly to its own physiological interest and to those of the system in general. And this is all true of every other assimilating function and process of the vital economy, and hence it is a well ascertained truth in the science of physiology, that the dietetic use of salt is unfriendly to all the processes of assimilation, nutrition and secretion, in the vital economy.—5. It always, in proportion to the freedom with which it is used, dimin-

ishes gustatory enjoyment. It is true that there are some substances eaten by man, whose qualities are such that they are rendered more tolerable by the use of salt, than they would be without it; but it is nevertheless true that the use of salt with those substances, always and necessarily impairs the nicely discriminating power of the organ of taste, and takes away the delicate perception of the agreeable qualities of more proper food, and thereby, on the whole, immeasurably diminishes the amount of gustatory enjoyment in the course of an ordinary life. Incredible as this may appear to many, every intelligent individual may demonstrate its truth by three months' fair experiment.

But we are told of the great abundance of salt in nature—of the instinct of some of the lower animals, which prompts them to go a great distance to procure it—of its necessity to preserve the lives of some of the domesticated animals, and of the scripture authority for its use in human diet.—All these points I have carefully examined, and from the examination, am the more fully convinced that salt is not a necessary, nor a proper article for the dietetic use of man. Its great abundance in nature affords no evidence either for or against the propriety of man's using it as an article of diet. As to the instinct of the lower animals, it is not true that there is any animal in nature, whose natural history is known to man, which instinctively makes a dietetic use of salt. It is true that some herbivorous animals, such as the deer, when they are diseased by worms, grubs, or bots, in the alimentary cavity, will instinctively go in pursuit of salt,—not as an article of diet—not as a seasoning to their food, but purely as a medicine to destroy the animals in their

stomachs; and they never instinctively use it at any other time or for any other purposes. It is thought to be true also, that domesticated animals are subject to diseases, for which salt is perhaps the best and most natural medicine in the world; but it is not true that they require it for any other purpose; nor is it true that they will be less healthy if they are not regularly fed with salt. In regard to the Scripture authority, it amounts to this and nothing more:—salt, when good, is an antiseptic, and preserves those substances on which it acts, from putrefaction; and good men have a similar effect upon the moral world; but when salt has lost its antiseptic property, it is good for nothing, and when men who profess to be good, exert no *antiseptic* influence on the moral world around them, they are like salt that has lost its savor.

It is a little remarkable, that some have contended for the necessity for salt, as an article in the diet of man, to counteract the putrescent tendency of animal food, or flesh-meat, when there is not a carnivorous animal in nature that ever uses a particle of it, and few, if any, of the purely flesh-eating portions of the human family ever use it in any measure or manner: and some portions of the human family who subsist mostly on vegetable food, wholly abstain from it. In man, as in some of the lower animals, salt is undoubtedly an excellent medicine for worms in the alimentary cavity:—yet, so far is the dietetic or habitual use of salt from preventing the generation of worms in the alimentary organs, that, on the contrary, it tends directly, by its irritating and debilitating effects, to produce that state of the bowels most favorable to the generation of worms:—for, while the alimentary organs of man are healthy and vigor-

ous, and perform their functions well, they are never infested with worms. It is only when they are debilitated and relaxed and sluggish that they are thus annoyed ; and the habitual and free use of salt tends directly to produce this state of things.

On the whole, then, it is most evident that the best and most permanent health of the human body does not require the dietetic use of salt—but on the contrary, the free use of it is decidedly detrimental to the human system. It is well known that sailors and others, when confined for a considerable time to salted food, become afflicted with scurvy, which is always a very distressing, and often a very fatal disease. And from my own extended and careful observations during the last eight years, I have been strongly pressed to the conclusion that the dietetic use of salt is largely concerned in the production of cancers, and other glandular diseases of the human system : and I am entirely certain that it exceedingly aggravates many chronic diseases : and have little doubt that it increases the liability of the body to diseases of every kind :—that it is directly conducive to scrofulous, pulmonary and cutaneous affections, and disorders of the mucous membrane :—in short, there is every reason to believe that it not only serves to predispose the human body to every form of disease, but, also, serves to aggravate and perpetuate every species of disease when actually induced, and that it serves to hasten on a premature old age by rendering the solids dry and rigid and inelastic. I am therefore prepared to affirm with great confidence, that the well-being of the human body does not require the dietetic use of salt :—that the free use of it is decidedly and often seriously injurious :—and therefore, if

it is used at all, it should be very sparingly, and always the less the better.

Spices.

In regard to other stimulants used as seasonings with food, such as mustard, pepper, ginger,—in short, all stimulating and heating spices and condiments, they are not only unnecessary, but they are decidedly mischievous in their effects on the alimentary organs, and through them on the whole system. They always, according to their stimulating power, increase the vital exhaustion of the parts on which they act, and produce a commensurate degree of physiological depression, or indirect debility; and when habitually and freely used, they produce chronic debility and preternatural irritability, not only of the digestive organs, but of the whole system. When first received into a healthy stomach, the vital reaction is so great that it always produces an inflamed aspect of the mucous membrane of that organ, arising from the engorgement of its blood-vessels in the effort of the stomach to protect its delicate tissues from the irritating properties of the offending substances; but when the habitual use of them has greatly impaired the healthy and discriminating sensibilities of the organ, the vital reaction is less powerful and the engorgement less excessive, while, at the same time, the stomach is commensurately less susceptible to the action of its own natural and appropriate stimuli, and suffers a physiological depression and want of tone if the customary stimulants are withheld; and this has led to the common, but utterly fallacious notion that these spicy seasonings promote gastric digestion. The truth is, that every one of the pure stimu-

lants actually retards digestion, diminishes the functional power of the digestive organs, and deteriorates their functional results. Some, it is true, are much less mischievous than others ; but none of them is salutary nor wholly innocuous. Dr. Beaumont found from repeated and careful experiments that, when precisely the same kinds of food were taken, at the same hour, on successive days, and in almost exactly similar conditions of the stomach, the food which was dressed with a liberal quantity of strong mustard and vinegar, was three quarters of an hour longer in digesting than that which was taken without any condiments. And this difference, it will be recollected, was in the stomach, which was accustomed to the use of such condiments, and therefore could not perform its function on pure, unstimulating aliment, with the full tone and vigor of a perfectly healthy stomach which had never been thus depraved. Dr. Beaumont also found that when mustard and pepper were taken with the food, they remained in the gastric cavity, till all the food was digested, and continued to emit a strong aromatic odor to the last ; and that the mucous surface of the stomach presented a slight morbid appearance towards the close of chymification.

It is true, as we have seen, that, when the stomach has been greatly impaired and debilitated, by the habitual and free use of pure stimulants, and lost its power to be healthfully and vigorously excited by plain and simple food, the sudden abstraction of all seasonings from the diet, will leave the stomach in a relaxed and depressed state, which wholly unfits it for the performance of its function. But it is also true that, so long as the stimulants are used, the unctinal powers of the stomach will always be impaired,

and its functional results, more or less deteriorated ; and the more freely they are used, the greater will be these effects ;—whereas, if the stimulants are wholly abandoned, and a severely abstemious diet is adopted for a short time, with a proper regimen in other respects, the stomach will soon recover its healthy sensibilities and natural tone, and be able to digest the plainest and simplest food with perfect ease and comfort.

These are, therefore, well-ascertained general principles in physiology :—1st, that mustard, pepper and all other stimulating and heating spices and condiments, afford no appreciable nourishment to the body :—2d, that they do not assist the stomach and other assimilating organs in the performance of their functions :—3d, that they considerably retard the process of digestion, and render it less complete and perfect ; and often, by greatly increasing the muscular action of the stomach, hurry the contents of the gastric cavity into the small intestine, in a comparatively crude state :—4th, that the use of them, even for a single time, never fails to cause irritation and produce some degree of indirect debility of the stomach ; and the habitual use of them always causes more or less chronic debility and morbid irritability of the alimentary organs, and, through them, of the whole system,—developing a general morbid irritability in the nerves of organic life, causing irregularity in the actions of the heart and blood-vessels, and leading to debility and disease in those organs,—debilitating the brain and cerebro-spinal system generally, inducing chronic inflammation in the mucous membrane of the alimentary and respiratory cavities, and other parts,—causing physiological depression, and creating an unhealthy hunger and thirst,

which lead to gluttony and the use of stimulating and intoxicating drinks and other substances. In short, the habitual use of these substances, always and inevitably, causes more or less irritation and exhaustion and debility in the whole system,—predisposes it to diseases of every kind,—actually induces many diseases, and aggravates every disease with which the human body is afflicted,—while, on the other hand, it in no measure ministers to the real comforts of man. It diminishes his gustatory enjoyment,—impairs his bodily elasticity and strength, and his animal vivacity,—takes away his mental tranquillity,—subjects him to frequent depressions of mind, and painful despondency, and increases his liability to insanity. Red pepper, mustard, ginger, and cinnamon, are somewhat less irritating than black pepper, allspice, cloves and nutmegs; but they are all highly exciting and exhausting, and when habitually and freely used, they are all decidedly and seriously mischievous. The stern truth is, that no purely stimulating substances of any kind can be habitually used by man, without injury to his whole nature.

Narcotics.

But the narcotic substances which are almost universally employed by mankind, purely for stimulating and intoxicating purposes, are far more deleterious in their nature, and, when used with equal freedom, are much more pernicious in their effects on the human system, than salt, spices, and other pungent substances ordinarily used as seasonings and condiments with food. The narcotic or intoxicating substances which have been used as means of stimulation by different portions of the human family, are

somewhat numerous ; but the most common in the civilized world, and especially in our country, are tea, coffee, tobacco, opium, and alcohol. Alcohol, though not considered a narcotic, is nevertheless properly classed with those substances, for its effects on the living body are essentially the same. It is produced, as we have seen, not by any formative process of nature, but by a process of decay, or the decomposition of the saccharine matter of organized bodies. The grand characteristic of all narcotic substances is their *anti-vital* or life-destroying property. When they are not so highly concentrated or energetic as to destroy life instantly, they produce the most powerful and often the most violent and distressing vital reaction, which causes a correspondent degree of exhaustion, depression, and prostration : and they often destroy life, purely by vital exhaustion in this violent and continued vital reaction. But when the discriminating sensibilities of the system have been depraved by the habitual use of these substances, and its powers of giving a sympathetic alarm greatly impaired, these same substances, even the most deadly in nature, if the quantity be only commensurate with the degree of physiological depravity, may be habitually introduced into the stomach, and even received into the general circulation and diffused over the whole system, and slowly but surely destroy the constitution, and always greatly increase the liability to disease, and almost certainly create it, and invariably aggravate it, without any of those symptoms which are ordinarily considered as the evidences of the action of a poison on the living body : but, on the contrary, their stimulation is attended with that pleasurable feeling, and agreeable mental consciousness, which lead the mind to the strongest confidence in their

salutary nature and effect. Hence, there is not a poison in the vegetable or mineral kingdom which the human body cannot, by careful training, become so accustomed to, that it will receive into the stomach, at a single dose, without any immediate evidences of its deleterious effects, a quantity sufficient to kill, in a very few minutes, six men who have never used it. Arsenic may be taken with food as a seasoning, as freely as table salt, with as little immediate evidence of its poisonous character : and even prussic acid, which kills instantaneously like lightning, where the body is wholly unaccustomed to its action, may with proper care be gradually brought to act upon the human system, till it can be used with considerable freedom as a means of exhilaration and intoxication.

This wonderful capability of the living body to adapt itself, by physiological depravity, to the action of poisons of every kind, has not only led the infatuated human race to the excessive use of such substances as means of intoxication, but almost, as a necessary consequence, has also led them to the full belief that those substances are innoxious and salutary. Accordingly we find in every period of human history, in every portion of the world, that not only the ignorant multitude, but also the more intelligent, and, to a great extent, even the members of the medical profession itself, have stoutly denied the poisonous character of those deleterious substances, which they employed as means of habitual stimulation and intoxication, on the ground that they could be habitually and freely used without producing immediate death, or any of the distressing symptoms which indicate the action of a poison ; but on the contrary, so far as the *feelings* can appreciate their effects, they act on the

system as grateful cordials. From an *experience* of this kind, the poisonous character of tea, coffee, tobacco, opium, alcohol, and all other narcotic substances, has been boldly, boisterously, and vehemently denied by those who habitually use them as means of stimulation and intoxication. Even in our own land of boasted intelligence, in the middle of the nineteenth century of the Christian era, and in our very colleges of learning, the idea that alcohol is a poison has been treated with ridicule and contempt,—as too absurd for any but a visionary fanatic to believe: and yet there is no truth in science more perfectly demonstrable than that alcohol is one of the most energetic and fatal poisons known to man; and with equal certainty can it be proved that tea, coffee, tobacco, and opium, are powerful poisons to the human body.

But this point is not, in any measure, to be determined by what is called *experience*, or the fact that these substances can be habitually used as means of agreeable stimulation, without producing the immediate symptoms of the action of deadly poisons: for as we have seen, if this be our criterion, we are forced to the fallacious conclusion, that there is no such thing as a poison in nature. We have seen that the solids of the human body consist of three general tissues or forms of organic structure,—that each of these tissues is endowed with peculiar vital properties,—that these tissues compose the several organs, and their vital properties, together with their vital affinities, which are under the control of the nervous power, constitute the vital forces of the organic economy, and the functional powers of the organs. Now then, whatever substance, by the action of its own intrinsic qualities, is immediately destructive to the vital

properties and vital constitution of these tissues, is as certainly a poison, as that two and two make four. If a real poison, in a very small quantity, or very diluted form, be brought to act on a living organ composed of these several tissues—as the stomach, for instance—the organ may, by its own peculiar economy of vital reaction, and by the co-operation of the associated organs in the general vital economy, so far protect itself and the system from the pernicious properties of the poison, as only to suffer considerable exhaustion of its vital powers, and depravity of its organic sensibilities. From this state, the organ may be recovered by the renovating economy of the system. But, if the poison be at first received in a highly concentrated form, or large quantity, it will either arrest the functions of life at once, by paralyzing the nervous power, or it will produce a violent reaction, and in the terrible conflict utterly exhaust the vital properties, and destroy the vital constitution of the tissues, and death will be the result ! This is, therefore, the only true mode of ascertaining the properties of substances, in relation to the physiological powers of the human body : and it is a matter which has been repeatedly and fully demonstrated, that all the substances which I have named, contain a strong *anti-vital* quality, or, in other words, their effect on the living body is to destroy the vital properties and vital constitution of the tissues which compose the organs.

Tobacco is not only one of the most powerful, but one of the most loathsome poisons in the vegetable kingdom :—and therefore, as we have seen, when any human being has succeeded in overcoming the strongest instinctive antipathies of his nature, and formed an appetite for this filthy

weed, that appetite is extremely despotic in its power, and will not be appeased by any other stimulant, and is more difficult to overcome than almost any other depravity of the human body.—I have already so fully explained the manner in which this abominable poison affects the human system, that it is not necessary I should say more concerning it. If what has been said will not convince man of the folly and madness of using tobacco in any form, as a means of stimulation, no human testimony will ; and I have little hope that any thing I can say, will have much effect in removing so deep and so universal a depravity. Opium is, in all respects, so essentially like tobacco, that what is true of one, in regard to its effects on the human system, is, in general, true of the other ; except that opium, being more commonly taken into the stomach, more immediately impairs the digestive organs, and diffuses its mischievous influence more rapidly and extensively throughout the whole system ; causing a correspondent degree of physiological prostration, and morbid irritability ; and, consequently, increasing the frequency and despotic energy of the demand for stimulation, and leading to greater excess in quantity, and proportionately more ruinous effects on the animal, intellectual, and moral nature of man ; rendering him extensively diseased, and—except when under the direct stimulation of his drug—stupid, sottish, and extremely miserable. Alcohol, being a more rapidly diffusable and a more fiery stimulant, seems almost instantaneously to pervade the whole system, and to make a direct assault on every part of the living body at once.—A very few drops of pure alcohol introduced into the human stomach, unaccustomed to it, will destroy life nearly as quick as prussic acid ;

and a small quantity of the common spirits of wine of the shops will destroy life in a few minutes ;—yet, by commencing the use of it in a very diluted form and in small quantities, and gradually increasing the strength and quantity, the human body, we know from most melancholy fact, may, through physiological depravity, be so accustomed to this deadly poison, that it will receive it in large quantities, and in some rare instances, be, as it were, saturated with it for many years, and still live on. Yet alcohol, whether in the form of distilled liquors, or fermented,—whether in wine or beer or cider, *is always an anti-vital principle*—always acts on the human body to disturb and impair its physiological functions, and to destroy its physiological powers. When first taken into the stomach, it highly inflames that organ, and, by the strong vital reaction, is expelled from the gastric cavity into the small intestine, and extends its inflammation through the whole length of that canal. It has been supposed to promote digestion, and has formerly been prescribed to dyspeptics, by physicians generally ; but it is now a matter of perfect certainty that it always retards chymification and renders the process less perfect, and always diminishes the functional power of the stomach :—in short, its effect is always, and, in the nature of things, of necessity, to destroy the vital properties and the vital constitution of the tissues of the body ;—and always to disturb every vital function, to deteriorate every functional result, and to impair and destroy every physiological and psychological power of the human system. It cannot, therefore, be used as a stimulant in any quantity, without some degree of injury to the whole nature of man ; and when habitually and freely used, it always does great mischief,

and almost inevitably leads to the most ruinous consequences, in body and mind: and nothing but the blindest infatuation, growing out of sensual depravity, could induce human beings to cling to, and vindicate, the use of such a destructive poison, as a means of stimulation.

Tea and Coffee.

But probably the most general, and unbroken, and, I might almost add, the most mischievous delusion of the civilized world at the present day, in relation to intoxicating substances, is that which leads to the nearly universal use of tea and coffee, as common beverages, by male and female—old and young—vigorous and feeble—healthy and sickly—rich and poor,—by all habitually as articles of diet, and by most, excessively, as means of intoxicating exhilaration. The other poisons of which I have spoken, have produced such manifest effects of evil, in the general experience and history of the human family, that multitudes have been convinced of their deleterious character. But with a very few individual exceptions, there is a universal belief in all parts of the world, where tea and coffee are used as beverages, that they are not only perfectly innocuous, but positively salutary. The fundamental principles on which this delusion rests, have already been explained, viz:—1st, the physiological capability of the human body to adapt itself by depravity so perfectly to the action of the most baneful substances, that it will manifest no immediate symptoms of the poisonous effects of such substances:—2d, the stimulation produced by even the most deadly poisons, to which the system is accustomed, is identified in the mental consciousness, with the natural and healthy

physiological stimulation of the body, and is enjoyed in proportion to the physiological depression which it removes, and the agreeable exhilaration which it causes:—3d, the use of tea and coffee is commenced at so early a period in life,—they are at first used in such small quantities, and so gradually increased, and the physiological powers of the body are depraved by such imperceptible degrees, that those violent and distressing symptoms which indicate the immediate action of a powerful poison, very rarely, if ever, result from the habitual use of these substances. The consequence is, that the depraved appetite which they create, the physiological depression and demand for stimulation which they cause, and the grateful exhilaration which they produce, make all who use them, love them in proportion to the freedom with which they are used, and with equal confidence, believe that they are perfectly salutary cordials, and indispensably necessary to comfort and to health.—But, if instead of commencing the use of these substances in very small quantities, a full cup of strong tea or coffee were taken at the first time, either by a youth, or a full-grown person, of a healthy and undepraved body, the violent and distressing symptoms which would inevitably result, in every case, would leave no doubt of the poisonous character of these substances; for there is no truth in science more fully ascertained, than that both tea and coffee are among the most powerful poisons of the vegetable kingdom. As early as 1767, Dr. Smith, of Edinburgh, demonstrated by a series of careful experiments, that an infusion of green tea had the same effect as henbane, tobacco, cicuta, &c., on the living tissues of the animal body; in all cases, first diminishing and finally destroying

their vital properties. In 1772, Dr. Lettsom, of Ireland, made a series of similar experiments with the same results :—and still later, Dr. Beddoes, of England, by a series of experiments several times repeated, completely demonstrated that tea is as powerfully destructive to life, as laurel water, opium or digitalis. Indeed, it is entirely certain that a small quantity of a strong decoction of tea or coffee will destroy human life, in one unaccustomed to the use of them, as quickly as an equal quantity of laudanum.

A notion has prevailed quite extensively, that green tea is more hurtful than black, on account of the former's being cured on copper : but this is wholly incorrect.—Green and black teas are varieties of the same plant ; and the only reason why green tea is a somewhat more active and powerful poison than black, is that its natural properties are less impaired by the process of curing.*—We are informed, however, that since 1832, a large proportion of the green tea imported into the United States has been manufactured from damaged black tea, by a process in which a small quantity of prussian blue is used :—yet, with this addition, the tea thus manufactured is not more poisonous than the genuine green tea of the best quality. But in regard to tea and coffee, as of all other intoxicating substances, which human beings use as means of habitual stimulation, there is a blind determination on the part of those who thus employ them, to defend their character, and to ascribe whatever evils may seem to be connected with their use, to something be-

* Mr. Brande, the distinguished analytical chemist, of England, by a series of careful experiments made in 1821, proved that there is no appreciable difference between green and black teas.

sides the intrinsic properties of the substances themselves. Yet, considering how early in life tea and coffee are introduced into the diet of children, and how universally and freely they are used, by both sexes of every age, it is greatly to be doubted, whether they are not at present actually doing more injury to the human constitution, and in a greater measure destroying human health, life and happiness, than any other intoxicating substance used in Christendom.*— Besides the injury done to the body by the very high temperature in which they are usually drunk, their strong narcotic property—in proportion to the freedom with which they are used,—has the same deleterious effect as tobacco, opium and alcohol—impairing, and serving to destroy, all the physiological and psychological powers of the human system. The appreciable morbid effects which they produce are of course modified by the different degrees of constitutional power in different individuals, and by all the varieties of situations, circumstances, conditions, and habits in life :— but, in all cases, they impair the functional powers of all the assimilating, circulating, and other organs concerned in the general office of nutrition,—cause more or less of unhealthy irritability in the nerves of organic life,—debilitate the brain and the whole cerebro-spinal system,—diminish the muscular power,—in every respect, predispose the body to disease,—always aggravate disease when induced,—cause frequent and distressing physiological depression, and mental disquietude and despondency, and strongly tend to

* There are now more than ten millions of pounds of tea, and fifty millions of pounds of coffee, consumed in the United States annually, and the quantity is rapidly increasing.

delirium and confirmed insanity.* The feeble and the sedentary suffer more from the effects of tea and coffee, than the vigorous and the active; and, as a general statement, woman, more than man:—indeed, the sufferings of woman are very greatly multiplied and enhanced by these treacherous beverages, which she regards as indispensable to her comfort.

It is most evident, then, that tea, coffee, tobacco, opium, alcohol, and all other narcotic and intoxicating substances, are poisonous to the human body, and cannot be employed by man, as means of stimulation, without decided detriment to his whole nature; and when they are habitually and freely used, the injury is always great and often very calamitous. Besides the evils already mentioned, the habitual use of narcotics, serves powerfully to diminish the size of the human body from generation to generation, and otherwise to impair its symmetry, and greatly to deform it. Employed as medicine, these substances often do great mischief; and it is certain that, as a general fact, the medical use of them has been incalculably more injurious than beneficial to the human family. In short, as a general rule, the less man has to do with them, as stimulants or as medicine, the better will be his health, and the more uniform his enjoyment:—and the less he has to do with all kinds of purely stimulating substances, as seasonings to his food, or means of stimulation, the more certainly will he be blessed with good health, long life and happiness, if his habits are in other respects correct. Even the camphor

* Tea and coffee will produce *delirium tremens* quite as quickly as ardent spirit, if they are used to the same excess.]

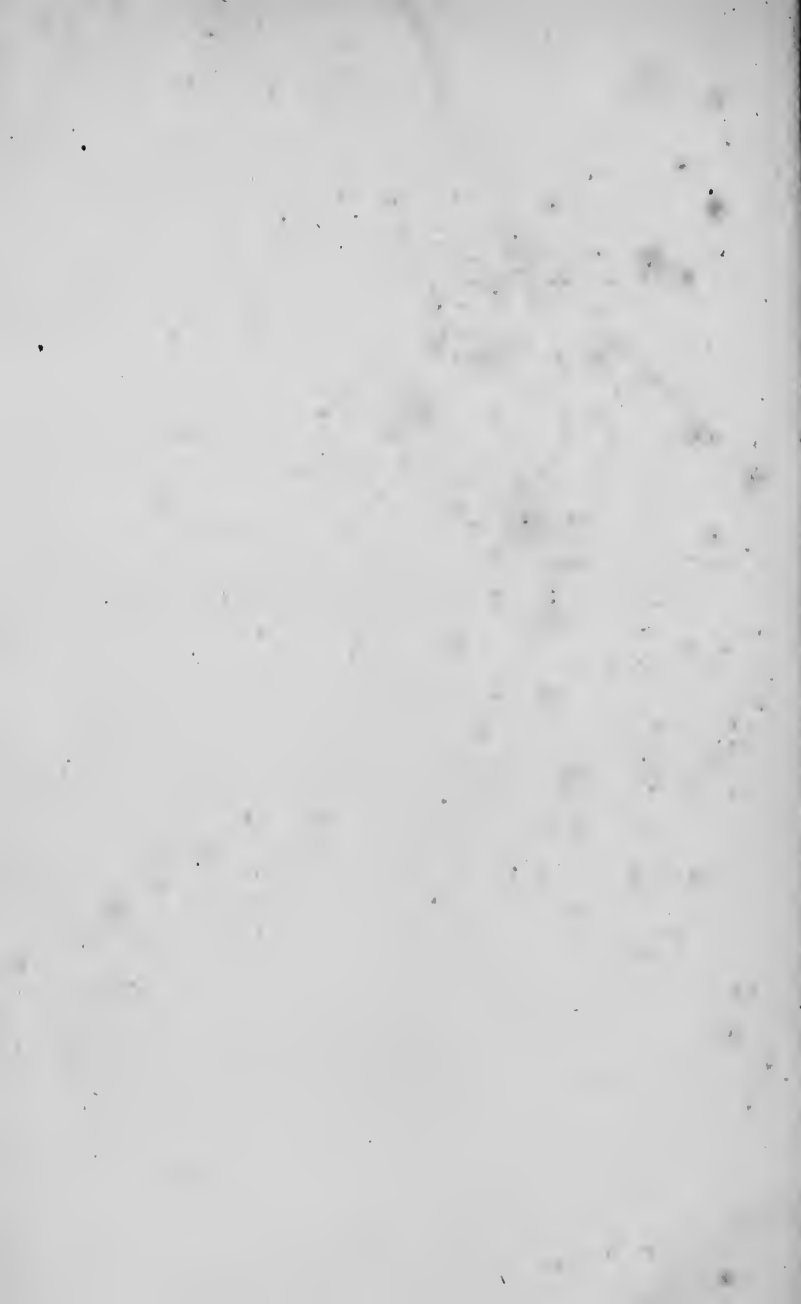
and the cologne bottles are far more frequently the sources of evil than of good to those who employ them : and the infusions or teas made of pungent and exciting herbs should be used with great caution,—and especially as drinks or medicine for children. Both for internal and external application, in health and in sickness, pure water is, as a general rule, the most salutary liquid that can be used.



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